



LPA Rail Rolling Stock Solutions

LPA Group design and manufacture a range of electronics & electro-mechanical components & systems for rail rolling stock

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Power systems: DC/DC, AC/DC converters & DC/AC inverters

Inter-connect jumper systems

Rail compliant USB charging

Electronics solutions

LED lighting

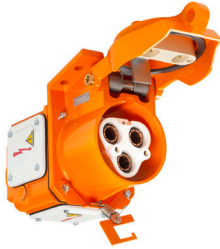
Body indicator lighting (BIL)

Seat electronics

LPA GROUP RAIL ROLLING STOCK SOLUTIONS

Shore Supply Systems

For connecting power to trains when they are stabled or in depots for maintenance. They are used to provide power for battery charging.



Features

Space saving design & life time performance

Train & battery power functions

Wide range of AC & DC voltages available

Circuit breaker protection, & electrical & mechanical interlocking facility available

Multiple keyway protection options

Enclosures in stainless steel, mild steel or aluminium

Interior mouldings & finishes in low smoke & toxicity PMC

IP66 rated to BS EN 60529

Inter-car Electrical Jumpers

Our range of inter-car electrical jumpers include connector systems, plugs & receptacles, mixed power & communication harnesses, ethernet communication harnesses & power harnesses.



Features

Connector Systems

Very compact

Permits optimum jumper dynamic design

High reliability & low maintenance

Zero body end space available

Accommodates data, control & low power using standard components

Meets Ingress Protection Standards up to IP66 to BS EN 60529

Connectors, Plugs & Receptacles | Ethernet

Meets Ingress Protection Standards up to IP66 to BS EN 60529

Mixed Power & Communication Harness

Unwired receptacles are available for plug storage purposes

Meets Ingress Protection Standards up to IP66 to BS EN 60529

Power Harness

Unwired receptacles are available for plug storage purposes

Meets Ingress Protection Standards up to IP66 to BS EN 60529

LED Tubes & 2D/2G11 Lamps

T8 & T5 drop in replacement tubes that are high reliability LEDs with built in drive electronics & 2D rail compliant LED lamps.



Features

Fully compliant to rail standards: EN 45545, EN 61373, EN 50121-3-2, EN 50155, EN 60081

Flicker free with instant start

High reliability LED & driver technology (110,000 hours MTBF)

Zero maintenance cost: 65,000 hours lumen maintenance (to 70% initial light output)

No mercury content

No UV emission (no yellowing effect of diffuser)

Colour rendering index >80 for a more pleasant passenger environment

50% energy saving

DC input voltage reversal (non-destructive)

Input transient & under voltage protection

Built in multiple LED circuit redundancy

Protected against power supply interruptions (EN 50155 Class S2 & C2)

Smart Lighting Control Units

Smart lighting control unit for the 1023 series LED modules & vestibule luminaire.



Features

Addressable lighting controller

Fully compatible with the vehicle control system via Ethernet

Acts as the control unit for 1023 series LED modules & vestibule luminaire

Unlimited dimming & scene setting scenarios

Condition monitoring

Ambient light control

Colour temperature control

Presence detection

Remote fault monitoring

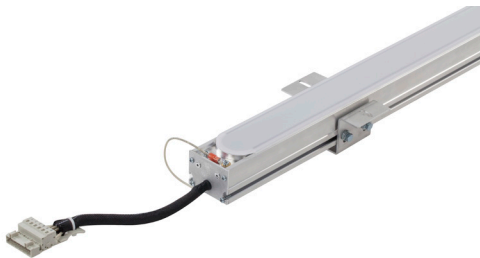
GPS enabled

Personalised lighting

Future proofing of lighting modes & configuration

LED Luminaires – Direct & Indirect

A range of direct & indirect LED luminaires.



Features

The complete LED luminaire includes aluminium profile, diffuser, LED modules & drive electronics

Built-in or remote drive electronics

140,000 hours to L70B10

50% power saving over fluorescent

IP55 to IP65 sealed

Colour Rendering Index (CRI) >85

Dimmable

Colour temperature control

Can be interfaced with the LPA Smart Lighting Control Unit

LED Modules

A range of LED Modules & LED strips.



Features

Supplied as a complete luminaire or as drive electronics & light engine for inclusion into customers own luminaire/profile design

Lower power chip LED light engine

Flexible configuration

Built-in drive electronics

Logic or PWM dimming control

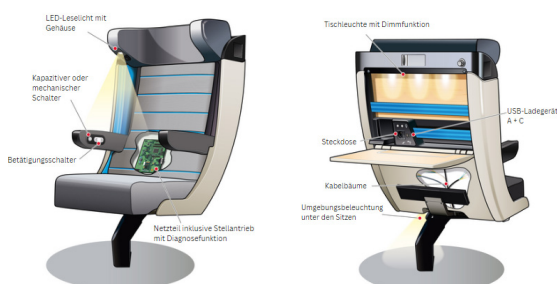
PWM colour temperature control available

140,000 hours to L70B10

Colour Rendering Index (CRI) >85

Passenger Seat Electronics & Lighting Kits

Complete electronics, power, lighting, optical & inter-connection loom kits.



Features

Power supply unit in 24VDC, 72VDC or 110VDC: 5VDC output or 12VDC with PWM for seat actuation

LED reading lights

LED ambient light located under the seat

LED secretary light with dimming steps

Reed switch for activation of LED secretary light

Mechanical or capacitive switches

USB charger – rail compliant

230VAC power socket

Inter – connection looms for input & output to/from power supply unit

Reading lights castings design & manufacture available

LED Door Status Lights

Bespoke LED door status lights.



Features

Supplied either as a complete luminaire or as LED modules into customer's own luminaire design

Lower power chip LEDs with high reliability

Flexibility of configuration & shape

140,000 hours to L70

Power Converters & Inverters

DC/DC converters from 10W to >500W, AC/DC converters from 25W to 300W & 750W DC/AC inverters.



Features

Designed specifically for rolling stock applications

Type tested & fully compliant with relevant standards (EN 50155, EN 50121.3.2 etc)

Available for all train auxiliary battery voltages (24V, 36V, 52V, 72V, 96V, 110V)

Maximum ambient temperature specified is for operation at full power

Operation at higher temperatures is possible with derating

Fully compliant with European Fire & Smoke standards (EN 45545-2)

Rail Compliant USB Charging

USB charging product in the form of a dedicated charging port (DCP), to meet the ever growing requirements of people on the move. Based on expert knowledge & experience within the railway market, LPA has developed a range of products to meet this demand.



Features

Offering a choice of 24V, 110V & 230V charging system for both driver & passenger use

The products have a rated life of up to 5000 insertion operations, are RIA12 compliant & are designed to work with all major handset brands including Apple, HTC, Samsung, Nokia, Kindle etc

Designed to be as flexible as possible & offers a standard set of parts that can be connected together to achieve any configuration required

Options include:

Single or double USB outlets

USB combined with a 3 PIN 240 AC single or double Outlet (1 or 2 Gang)

USB combined with a 3 PIN socket outlet (1 or 2 Gang) with each socket outlet being protected against individual overcurrent, thereby preventing the main circuit breaker from tripping

All designed with tamper proof fixings, earth studs where required, & available in a selection of finishes



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