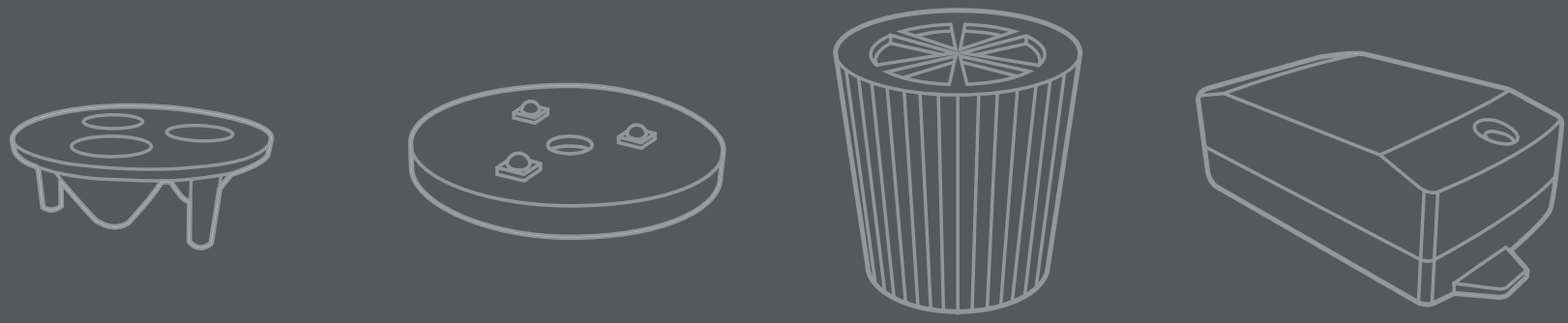

RECOM
LIGHTING


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BRIDGELUX CREE EVERLIGHT NICHIA OSRAM PHILIPS LUMILEDS SEOUL SEMICONDUCTOR SHARP

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35 years of experience

RECOM has been in the electronics industry for over 35 years with extensive expertise in the industrial markets. This experience is now at the service of the Solid State Lighting industry where quality and reliability continue to be the pillars of our portfolio.

With the advent of lighting as a highly technical electrical field, we found ourselves uniquely positioned to organically expand into this market place. We have been able to design unique products to fit and grow with our customers' needs, meeting their specifications for highly efficient and dependable products – just like those on which our reputation has been built.

Global support through our local offices

With local offices in Shanghai, Singapore, New York, Vienna and Frankfurt, RECOM can support your needs at the local level and still support you around the globe when you need it. At RECOM, we believe that local support in the native language is key to success.

An impressive product portfolio

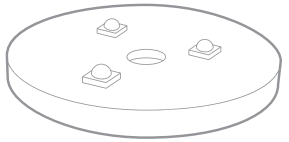
RECOM manufactures state-of-the-art LED driver modules, with both AC input and DC input to meet any possible need in the SSL market. Additional features, such as TRIAC dimming, 0-10 analog dimming, PWM dimming, IP67 rating (for outdoors applications), Power Factor Correction, EMI filters and short circuit protection are standard options in our portfolio.

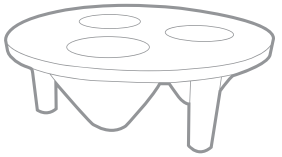
Continuous innovative development

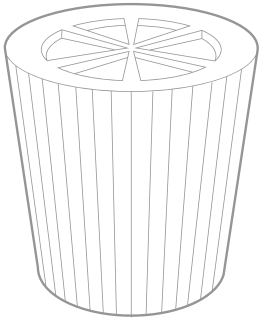
As SSL is a new and quickly developing market, constant innovation is the only way to stay abreast with the constant improvements in the LED arena.Our engineers are in very close contact with other SSL component manufacturers to provide you with the most advanced LED Drivers that meet the latest requirements for your LED application.

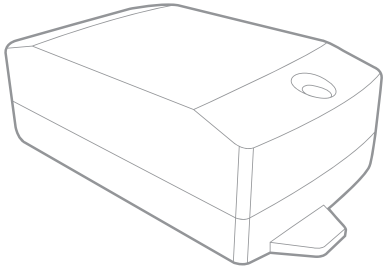
Quality control and safety certifications

Quality and reliability are the pillars of our designs.
We not only provide a 5 years warranty for almost all of our lighting portfolio, but we are confident that our designs will last much longer.
All our modules are designed to pass world wide certifications including UL and EN standards.









3 REASONS TO USE RECOM LIGHTING

Innovative technology

We have become a particularly innovative power supply vendor over the years due to customers being satisfied with nothing less than the best. For in the end, our development team lives and breathes to meet the needs of our customers. Since our first DC/DC converter came off the production line some two decades ago, not a year has gone by without us launching a new innovation.

We stand behind our products.

RECOM understands the importance of reliability in your critical applications. That is why we are proud to feature a 5 year warranty on most of our Lightline LED drivers, Our products and processes meet the highest international standards and have been given the thumbs-up by some of the world's leading certification organizations. But for us that is just the beginning – because we aim for zero defects.
As quixotic though this quest may be, we still do our best to achieve it. And this applies not only to the manufacturing and quality control phases, but also to our product development process.


1
RACD30
RACD20
2

AC LED DRIVERS

3 RACD03

RACD-series 3, 6, 12, 20, 30 and 60 watts

Introducing a new family of low power AC input LED drivers, the RACD series; RECOM is offering a low cost solution for the low power Solid State Lighting. This family includes modules of 3W, 6W, 12W, 20W, 30W and 60W in compact packages to fit the different needs of each lighting application. All modules are isolated and fully protected for safety based on UL8750 and EN61347 standards. Additional features like power factor correction, dimming controls can be found in our extensive portfolio. Building an LED lamp has never been easier!

- Constant current outputs of 350mA, 500mA, 700mA, 1050mA, 1400mA, 2100mA, 2400mA and 4200mA.
- Universal AC input
- Power factor corrected
- 3kVAC isolation, fused input and protected output
- Input and output screw terminals or polarised connectors
- 3 to 5 year warranty
- UL8750 listed, EN61347 and EN55015 certified

Typical Applications

- Indoor lighting
- Cabinet lighting
- Recessed lighting
- Street lighting
- High bay/low bay lighting
- Wall sconce
- Decorative lighting
- Desk lamps
- Freezer lamps
- landscape lighting
- Wall lamps
- Pendant lamps

AC INPUT LED DRIVER

Constant Current AC LED Driver

- Universal Input Voltage
- 3 to 5 Year Warranty
- Power Factor Correction (12W and above)
- Constant Current Outputs: 350 mA, 500 mA, 700 mA, 1050 mA, 1400 mA, 2100 mA, 2400 mA and 4200 mA
- High Efficiencies
- Ultra Compact Packages
- RoHS and REACH Compliant
- UL 8750 Listed
- 277 AC Input Option

	Series	Output Current	Vin	Vout	Isolation	Certification	Case	Other Features
	RACD03	350, 500, 700 mA	90-264 VAC	3-15, 3-11, 3-6 V	3 kVAC	EN 8750	39 x 30 x 20 mm	3 Year Warranty, IP66, Ultra Compact Size, Dual Mode (CC & CV)
	RACD06	350, 500, 700 mA	90-264 VAC	3-24, 3-14, 3-12 V	3 kVAC	EN 8750	58 x 35 x 21 mm	3 Year Warranty, Compact Size, Dual Mode (CC & CV)
	RACD12	350, 500, 700 mA	90-264 VAC	3-36, 3-24, 3-17 V	3 kVAC	EN 8750	123 x 45 x 18 mm	5 Year Warranty, Low Profile, Easy Connections
	RACD20	350, 500, 700, 1050 mA	90-264 VAC	6-56, 6-40, 6-29, 5-17 V	3 kVAC	EN 8750	145 x 50 x 22 mm	5 Year Warranty, Low Profile, Easy Connections
NEW	RACD20/277*	350, 500, 700, 1050 mA	90-305VAC	28-57, 20-40, 14-29, 18.8-19 V	3 kVAC	EN 8750	Oblong 80 x 74 x 26mm	5 Year Warranty, 90-305V Wide AC Input, IP66 Rated
	RACD30	500, 700 mA	90-264 VAC	10-56, 10-43 V	3 kVAC	EN 8750	160 x 50 x 22.5 mm	5 Year Warranty, Low Profile, Easy Connections
	RACD60/OF	700-1100, 1400-2140, 2150-2500, 3570-4200 mA	90-264 VAC	38-54, 21-28, 17-24, 11-13.5 V	3,75 kVAC	EN 8750	101.6 x 45 x 50.8 mm (4"x2"x1")	5 Year Warranty, Open Frame Version (/OF), Adjustable Output Current
	RACD60/IP67	700, 1050, 1400, 2100, 2400, 4200 mA		38-54, 33-48, 21-28, 17-24, 11-13.5 V	3,75 kVAC	EN 61347 8750	101.6 x 45 x 50.8 mm (4"x2"x1")	5 Year Warranty, IP67 Rated, Ultra Compact Size

*Preliminary, Release Q3/2012

Low power 0 to 10V, TRIAC & thermal dimming

RECOM proudly presents the dimmable series of low power AC input LED drivers. 0 – 10V and TRIAC dimming is featured in our 20W module the RACD20-D and RACT20 respectively. The RACD60/TOF includes our thermal dimming feature for protection purposes. Just like our non-dimmable drivers all modules are fully protected for safety based on the UL 8750 and EN61347 standards.

- Constant current outputs of 350mA, 500mA, 700mA, 1050mA, 1400mA, 2100mA, 2400mA and 4300mA.
- Universal AC Imput
- Power factor corrected
- Up to 3,75kVA isolation, fused input and protected output
- Input and output screw terminals
- Analog dimming (RACD20-D)
- TRIAC dimming (RACT20)
- Thermal dimming (RACD60/TOF)
- 5 year warranty

Typical Applications

- Indoor lighting
- Cabinet lighting
- Recessed lighting
- High bay/low bay lighting
- Wall sconce
- Decorative lighting
- Desk lamps
- Wall lamps
- Pendant lamps

Lightline

AC INPUT LED DRIVER

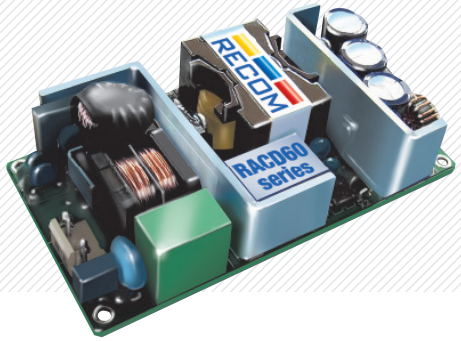
Constant Current AC Dimmable LED Driver

- Universal Input Voltage
- 5 Year Warranty
- Power Factor Corrected
- Constant Current Outputs: 350 mA, 500 mA, 700 mA, 1050 mA, 1400 mA, 2100 mA, 2400 mA and 4200 mA
- High Efficiencies
- 0-10V Analog, TRIAC & Thermal Dimming
- RoHS and REACH Compliant
- UL 8750 Listed

Series	Output Current	Vin	Vout	Isolation	Certification	Case	Other Features
RACD20-D	2x 350 or 1x 700 mA	230 VAC	3-24 (2x)	3 kVAC	EN 8750	155 x 50 x 22 mm	5 Year Warranty, Dual Outputs, 0-10V Analog Dimming (10% to 100%)
RACD20-D (US)	2x 350 or 1x 700 mA	110 VAC	3-34 (2x)	3 kVAC	EN 8750*	155 x 50 x 22 mm	5 Year Warranty, Low Profile, Easy Connections, 0-10 Analog Dimming (10% to 100%)
NEW RACT20	350, 500, 700, 1050 mA	110 / 230 VAC	30-56 , 21-39, 15-28, 12-18 V	3 kVAC	EN 8750	137.5 x 50.2 x 23 mm	5 Year Warranty, TRIAC Dimmable down to 0%, Flicker Free Operation
RACD60/TOF	700-1050, 1400-2140, 2150-2500, 3570-4200 mA	90-264 VAC	38-54, 21-28, 17-24, 11-13.5 V	3,75 kVAC	EN 8750	101.6 x 45 x 50.8 mm (4"x2"x1")	5 Year Warranty, /OF Open Frame Version, /TOF Thermal Dimming Ultra Compact Size

* UL pending

RACV-series and RACD-series 3, 6, 30 and 60 watts



LEDs are usually driven by current drivers, but there are applications on the market which need constant voltage instead of constant current. Due to legal requirements c.v. LED drivers must meet specific parameters. PFC > 0.9 is already mandatory at power starting with 25W and EN61000-2-3 class C is required which is not typical for standard constant voltage power supplies. Recom designed, beside specific constant current power supplies for dual use, also to use them to power the RCD-series where specific applications make a dual stage driver necessary.
All modules are isolated and will meet the mentioned UL and EN standards, the dual use helps to reduce logistic costs.

- Universal Input Voltage
- 5 year warranty
- High Efficiency > 85 %
- Constant Voltage Outputs
- Power Factor Corrected
- RoHS and REACH compliant
- EN 61000-3-2 (Class C)
- 5 year warranty
- UL 8750 listed

Typical Applications

- Cabinet lighting
- High/low bay lighting
- Wall washers
- Cove lighting
- Signage
- Backlight for signals
- Road signs
- Commercial signs

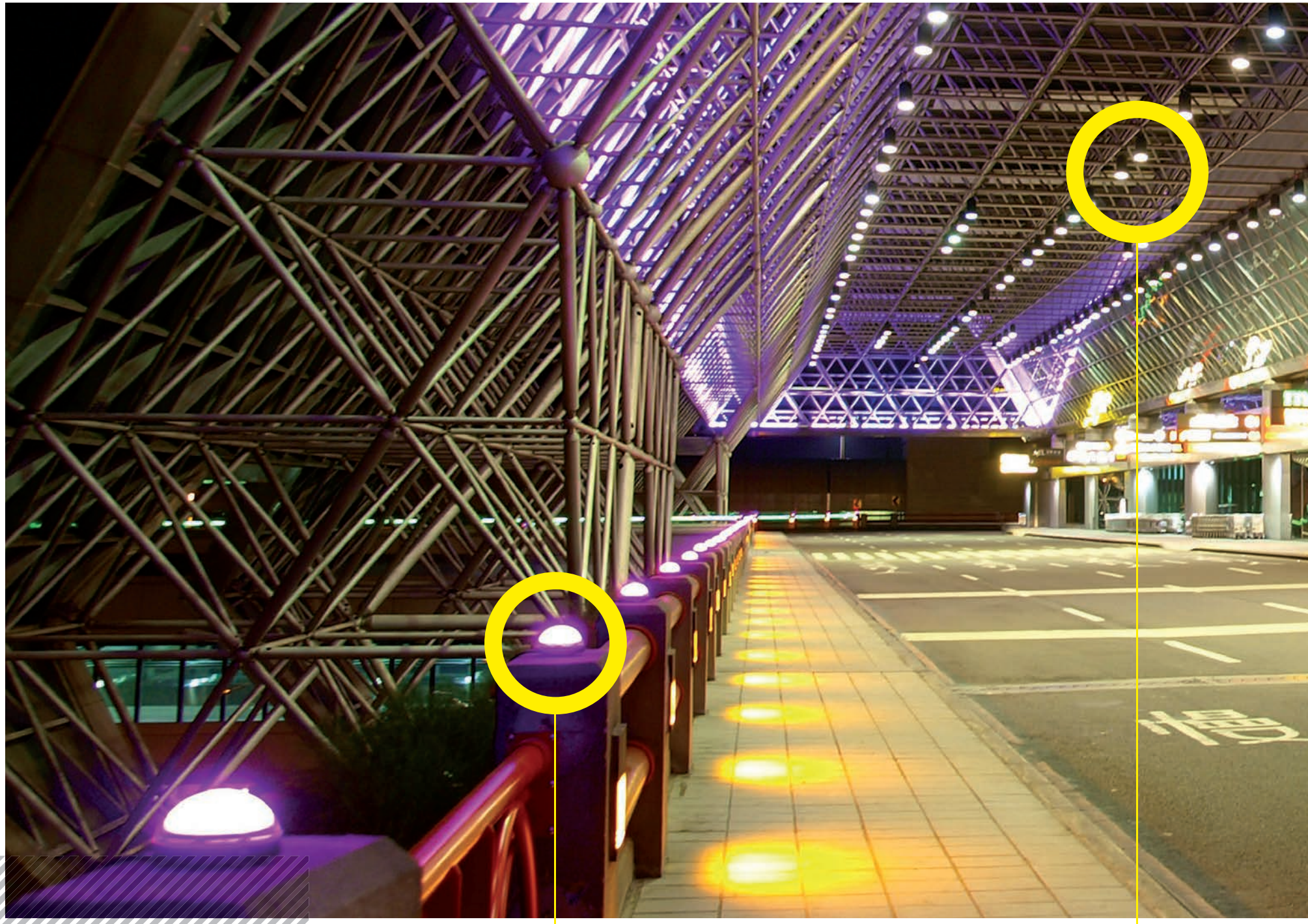
Lightline

AC INPUT LED DRIVER

Constant Voltage AC LED Driver

- Constant Voltage Outputs
- Universal Input Voltage
- 3 & 5 Year Warranty
- Power Factor Corrected
- Ultra Compact Packages
- RoHS and REACH Compliant
- UL 8750 Listed

Series	Max Iout	Vin	Vout	Isolation	Certification	Case	Other Features
RACD03	350, 500, 700 mA	90-264 VAC	15, 12, 8 V	3 kVAC	EN 8750	155 x 50 x 22 mm	3 Year Warranty, IP66 Rated, Ultra Compact Size
RACD06	350, 500, 700 mA	90-264 VAC	24, 15, 12 V	3 kVAC	EN 8750	155 x 50 x 22 mm	3 Year Warranty, Compact Size
RACV30	1250, 2500 mA	90-264 VAC	24, 12 V	3 kVAC	EN 8750	137.5 x 50.2 x 23 mm	5 Year Warranty, PFC >0.9
RACD60/IP67	1050, 2100, 2400, 4200 mA	90-264VAC	55, 29, 25, 14 V	3 kVAC	EN 8750	101.6 x 45 x 50.8 mm (4"x2"x1")	5 Year Warranty, IP67 Raged, Ultra Compact Size, >PFC > 0.9, Open Frame (/OF)



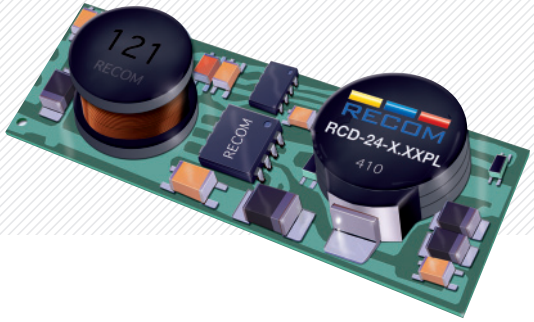
1 RCD-24-PL

RCD-48-1.20/M 2

3 RCD-24

DC LED DRIVERS

RCD- and RBD-series from 1 to 73 watts



RECOM presents the RCD and RBD family offering a variety of DC input LED driver modules with a constant current output from 300 mA up to 1.2 Amps. With a buck topology in RCD series and buck-boost topology in the RBD series these modules have comprehensive specifications, such as: high efficiency (up to 97%), wide input voltage range, very low output dropout voltage, 2 independent dimming options (PWM and 0-10 analog), MTBF up to 600,000 hours, and 3 packages (through hole, wired, and SMD).

- All in one! No need for external components
- 2 independent dimming options that can be used at the same time
- RCD/W suitable for outdoors/underwater applications (IP67)
- High efficiency over a wide range of LED loads
- Buck (RCD) and Buck-Boost (RBD) topology
- First SMD DC LED driver module in the market! (RCD/PL)
- Extremely low profile (only 6.6mm) – (RCD/PL)
- Rheostat (potentiometer) dimming option

Typical Applications

- Architectural lighting
- Theatrical lighting (stage lighting)
- Outdoor lighting
- Underwater and marine applications
- Solar powered Lighting
- Fluorescent replacement
- Spot lamps
- Decorative lighting
- LED displays
- Freezer lighting
- Backlight LED
- Landscape lighting
- Cabinet lighting
- Battery operated apllications

Lightline

DC INPUT LED DRIVER

Constant Current DC LED Driver

- All-in-one
- Ready To Use (no external components necessary for basic use)
- High Efficiency (up to 96%)
- PWM/Digital and Analog Dimming
- Wide Input Voltage Range
- Buck & Buck-Boost Topology
- Ambient Temperature Range -40°C to +85°C
- Low Emissions (EMC filter built-in)
- Short Circuit Protected
- Custom Designs Available

	Series	Output Current	Vin	Vout	Isolation	Certification	Case	Other Features
	RCD-24-x.xx	0.35-1.2 A	4.5~36 VDC	2-35	none	EN	DIP	Constant Current, PWM & Analog Dimming
	RCD-24-x.xx/W	0.35-1.2 A	4.5~36 VDC	2-35	none	EN	DIP wired	Constant Current, Wired Version,PWM & Analog Dimming
	RCD-24-x.xx/ VREF	0.3-0.7 A	4.5~36 VDC	2-35	none	EN	DIP	Constant Current,Analog Dimming (Rheostat)w. External Potentiometer,Vref output
	RCD-24-x.xx/ W/VREF	0.3-0.7 A	4.5~36 VDC	2-35	none	EN	DIP wired	Constant Current,Analog Dimming (Rheostat)w. External Potentiometer,Vref output, Wired Version
	RCD-24-x.xx/PL	0.3-1.0 A	4.5~36 VDC	2-35	none	EN	SMD	Constant Current, SMD Pinless Version, Low profile, Built in Class A/B filter, PWM & Analog Dimming
NEW	RCD-48-x.xx	0.35-1.2 A	9-60 VDC	2-56	none	EN	DIP	Constant Current, Wide Input / Output Voltage Range, PWM, Analog, Vref Output
NEW	RCD-48-x.xx/W	0.35-1.2 A	9-60 VDC	2-56	none	EN	DIP wired	Constant Current, Wide Input / Output Voltage Range, PWM, Analog, Vref Output, Wired Version
NEW	RBD-12-x.xx	0.3-0.5A	8-36 VDC	8-40	none	EN *	DIP	Constant Current, Buck-Boost Topology, PWM, Analog, Vref Output
NEW	RBD-12-x.xx/W	0.3-0.5A	8-36 VDC	8-40	none	EN *	DIP wired	Constant Current, Buck-Boost Topology, PWM, Analog, Vref Output, Wired Version

* UL pending

Why use LEDs?

LED technology has the highest Lm/W potential of all lighting technologies, meaning it can deliver more light with less power. The increasing efficiencies and life expectancy of LEDs make them especially appealing for their integration into all types of lighting fixtures.

Benefits of LED vs traditional lighting

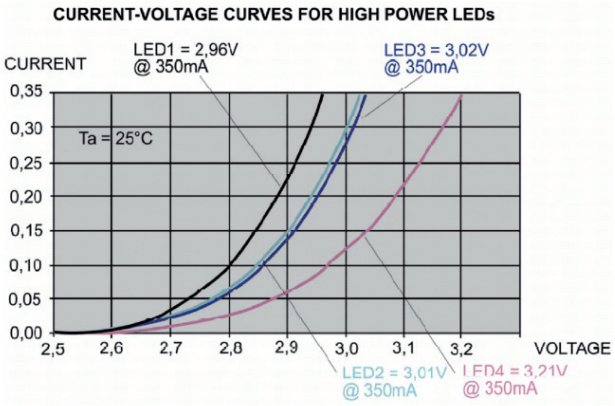
- Energy savings
- Better light quality, color and control
- Long lifetime
- Low maintenance cost

Light source	Typical Lm/W	Watts needed to deliver 1.400 Lumen
Incandescent	10~18	100 Watts
Halogen	15~20	80 Watts
CFL	36~60	30 Watts
Fluorescent	50~100	18 Watts
LED	47~91*	20 Watts

*lm/W continues to increase as LED technology evolves

Basic LED characteristics

LEDs are non linear devices. When the voltage increases past a certain threshold the LED starts to emit light and the current increases sharply. If the voltage continues to rise the LED rapidly overheats and burns out. The trick is to operate LEDs in a narrow band between full OFF and full ON. In addition, the operating voltage varies between different high power LEDs – even within the same batch and supplier. It also changes with the ambient temperature and the age of the LED.



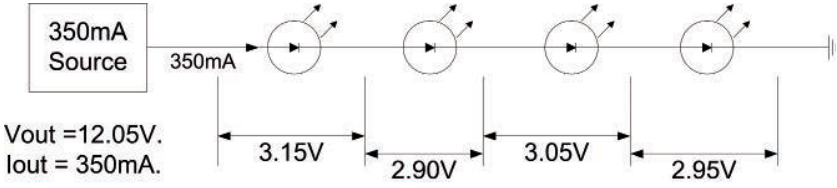
Why a constant current driver is the better solution

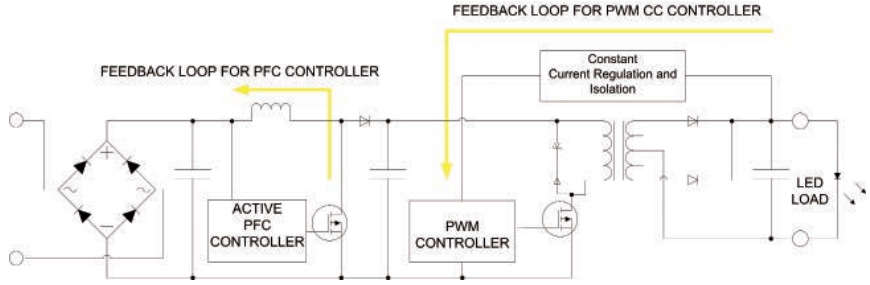
When powered by a constant current driver, each LED in a chain has the same current. Since the emitted light is proportional to the current, all LEDs have the same brightness. The majority of high power white LEDs are designed to operate between 350mA & 1A. The simplest constant current source is a constant voltage supply driving the LEDs via a resistor. This solution is very cheap, but has a poor current regulation and wastes power generating additional heat.

The next simplest source of constant current is a linear regulator. The excess power has to be dumped as heat, so a good heat sinking of the regulator is required. Another disadvantage is the poor efficiency of this solution.
The ideal solution is a constant current driver that controls the current internally with very high efficiency and no need for a heatsink.

Power factor correction

Energy Star requirements state that any LED driver with more that 25W be power factor corrected (PFC). Simply put, PFC means that the current drawn by the driver is in phase with the input voltage and that any harmonic interference injected by the driver into the mains supply is below certain limits (Class C for lighting). Power factor is measured as a number between 0 and 1, where 1 is perfection. Class C limits require a figure of at least 0.9 for domestic and commercial lighting. RECOM power factor corrected products have a typical figure of 0.95 or higher though the regulations do not require PFC for drivers below 25W, all RECOM 12W and 20W drivers also feature active power factor correction, allowing you to build your LED fixtures with confidence that you will meet all of the international EMC standrads, now and in the future.



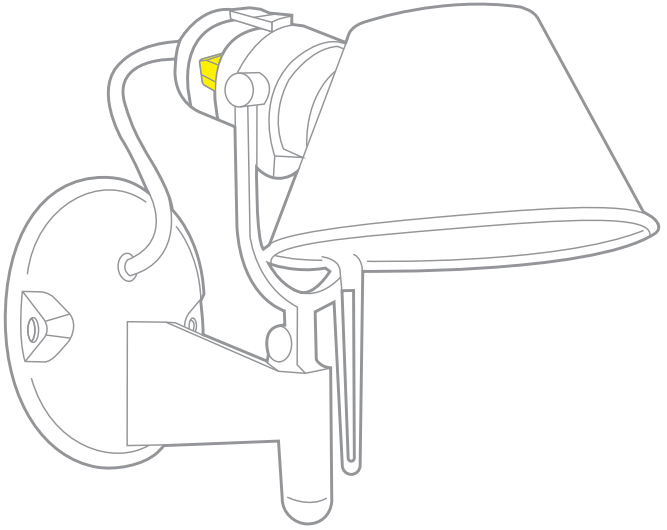


LED arrays make your light design

LED manufacturers are developing new LED arrays, both with directional and non-directional light, to make it easier for lighting fixture manufacturers to design high brightness LED fixtures without the need to master the binning process for a good light quality and color. Connector manufacturers (e.g. TE, Molex) are also developing lighting connectors that will allow lighting designers to mount and connect the LED arrays to the LED driver without needing a soldering iron. The RECOM AC LED Drivers (RACD20/30) are a perfect match for LED Arrays from Cree (MPL, MTG, CXA), Lumileds (LuxeonS), Bridgelux (RS, ES), Sharp (Mega Zenigata) and more.

Low power lamps for indoor & outdoor

The RACD03 and RACD06 are very compact AC input LED drivers that will cover your needs for current for most low power applications, such as desktop lighting, bed lamps, outdoor lanterns, wall lamps, bollards, etc. The small size of both RECOM families will help you to integrate the LED driver inside your fixtures providing the required constant LED current with a universal AC input. The RACD03 is fully silicone potted for wet and damp conditions such as bathrooms, cellars and garden lights while the RACD06 is fitted with screw terminals for easy installation in furniture, kitchen cabinets or within existing light fittings. The two series have now been extended to offer 350mA, 500mA and 700mA options.



AC dimming for light modules

The RACT20 is a LED driver module that is mains dimmable using conventional wall dimmers, allowing existing incandescent installations to be upgraded to LED lights without rewiring. Wall dimmers use either triac (leading edge) or transistor (trailing edge) phase angle control to partially allow the AC waveform through according to the dimmer setting. While incandescent lamps simply react to the average power coming through the dimmer, LEDs are current driven and cannot be directly dimmed this way. The RACT20 cleverly detects the switching edges to calculate the phase angle and uses this information to correctly and linearly dim the LED current over the full 0 % to 100 % range and works with both leading and trailing edge dimmers.

Easy connections for linear lamps

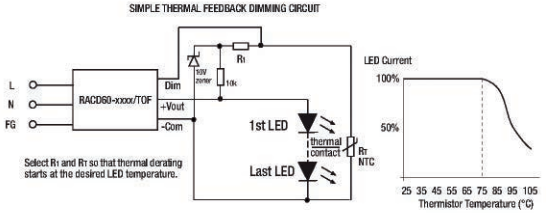
The RACD family is ideal for cabinet, under-cabinet and track lighting. The small size and low cost of those LED drivers makes them the perfect choice, and the wide output voltage range means that it is possible to drive from only one or a few LEDs up to the full LED load with the same driver, thus simplifying your logistics. The output socket connector makes it impossible to crosswire the LEDs, making life easier for contractors and end users. When used with a pre-wired loom, the socket connecter also eliminating the risk of LED damage during installation through wrong connection (e.g. parallel instead of serial).

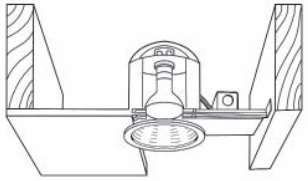
Thermal feedback dimming control

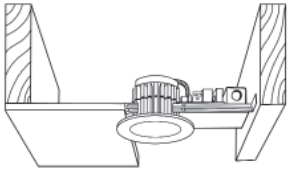
The RACD60 family of RECOM now comes with a thermal dimming input. A simple thermal feedback circuit can be used to reduce the current as the temperature rises to keep the LED operating reliably at high temperatures. This feature is critical in certain applications where the light must not fail even when the ambient temperature exceeds the design limits. High bay, low bay, parking lot and street lights are examples where reliable and continuous lighting is required for safety. The thermistor sensor changes its resistance sharply above a certain temperature. A set temperature resistor is used to program the dimming feedback to start at any desired LED case temperature, the most common values being around 75°C depending on the application. As the drive current decreases, the power dissipated in the LED also decreases, limiting the potential danger of over-temperature and early failure in your fixture. A low cost zener diode is used to derive a stable 10V reference voltage from the LED output so an external power supply is not required.

Compact high power drivers

Recessed lights have standardized on certain industry-accepted dimensions, making it easier for designers, installers and manufacturers to use interchangeable parts. LED-based lights need an additional driver, however, meaning that the J-Box used for the wiring connections must now also be used as the housing for the additional electronics needed. This places certain size constraints on the LED drivers. The 3W to 60W compact modules from RECOM fit in to standard J-Boxes, making them the ideal choice for these types of lights. Higher power recessed lights or high-bay lighting installation need more powerful LED drivers that are too large for standard J-Boxes, but should be mounted separately for cooling purposes anyway. However, the compact dimensions of the RECOM high power drivers makes them easy to integrate with standard lighting designs with the minimum of re-engineering.

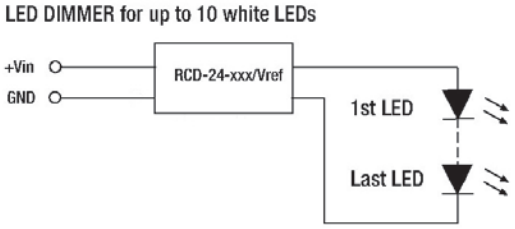






Simple potentiometer dimming

A very simple way to have a dimmable lamp, even from a variable input voltage source (batteries, etc) is to use the RECOM modular RCD-24/VREF with an external potentiometer to adjust the output current with a 100 % linearity. The internal reference voltage will provide the required stable output for the potentiometer.



T8 LED-based replacement

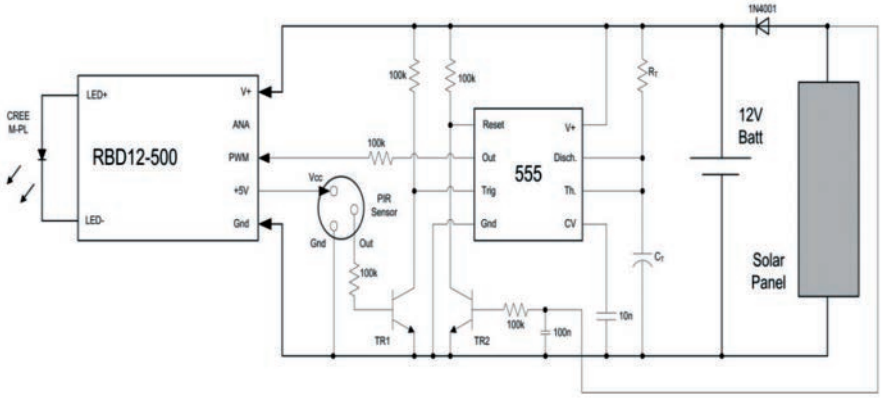
The compact size of the RCD-24/PL is ideal to fit inside the T8 tube and its accuracy can drive and maintain stable currents on several strings of medium current LEDs (e.g. Cree's ML-E).
The result is a dimmable (with an external rheostat/potentiometer) 24VDC T8 tube that can be easily powered by an standard external power supply or connected to a low voltage DC wiring.

BOM:
14x Cree ML-E
1x RCD-24-0.30/PL/A
1x 16k ohm resistor
1x 10k potentiometer external
1x Wall-plug AC power supply

Solar powered light

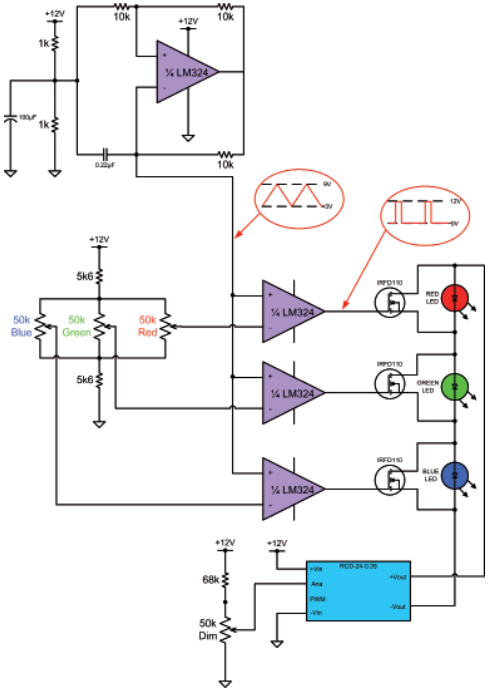
A self-contained high brightness solar-powered light can be made with a photo-voltaic cell connected to a small lead-acid battery and the RBD-12 boost driver from RECOM. A 12V battery can normally only drive a string of 3 LEDs and does not have enough voltage to power most LED arrays such as the Cree M-PL which needs around 24V to light up. The RBD-12 takes a low voltage input (8-24VDC) and boosts it to a higher voltage (16-40VDC) which is constant current regulated. In the application shown below, the solar panel charges up the 12V battery during the day.

The circuit uses the output of the panel as a light meter, so the RBD-12 is only enabled at night. The RBD-12 features a 5V regulated auxiliary output which is used to power a miniature passive infra-red movement detector. If someone walks within range of the detector (up to 30ft or 10m), the 555 timer is triggered and the light is turned on for a pre-determined time period. If several of these off-grid lights are placed along a pathway, the effect will be a pool of light that follows you along.



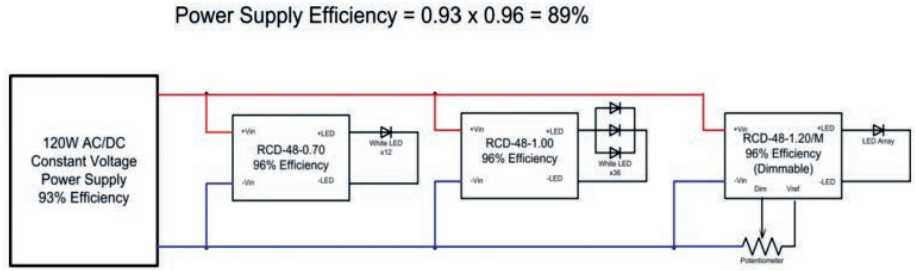
Simple RGB mixer

This simple RGB mixer uses a single LED driver to color mix an RGB LED. The color can be independently mixed by the 3 potentiometers on the left and additionally, the overall brightness can be dimmed by the analogue pin on the RCD-24 driver.



High efficiency DC bus

If many low power LED light fittings are required, it can often be more efficient to use a low voltage DC bus power supply rather than to power each LED separately from the mains voltage. AC/DC LED drivers can be very efficient, but for low power drivers, the internal overheads mean that efficiencies of only around 60 % can be expected. On the other hand, a 20W AC/DC power supply has an efficiency approaching 85 % and a 100W more than 90 %. The RCD range of DC LED drivers have an efficiency of around 96 %, so a central high power AC/DC constant voltage power supply powering distributed DC/DC LED drivers offers a highly efficient system solution. The new RCD-48 series of converters have an input voltage range of up to 60V, so allowing both the use low-cost 48V power supplies and the ability to drive longer strings of LEDs of up to 70W. Each DC/DC driver can be simply dimmed using either PWM or analog control voltages, so an individually dimmable, mixed power lighting system is very easy to implement.



LIGHTING FIXTURES, POWERED BY RECOM

RECOM
LIGHTING

1 **UNDER CABINET LIGHTING**
Linear cabinet lighting provides bright task lighting to kitchens and/or ambient lighting to shelving and molding. It's important that the driver fit into the cabinet space (a linear driver e.g. RACD12/20). When a transformer is used, a low voltage driver (RCD-24 family) is required (12V or 24V).
Recommendation: RACD12/RACD20/ RACD30 or RCD-24

2 **PENDANT LAMP**
Adorning the ceiling, these lamps bring style to your home as a decorative tool but they also need to provide enough light to illuminate the floor from the ceiling. LED-based lamps or modules are required to provide the equivalent of a 60-200W incandescent bulb.
Recommendation: RACD12/RACD20/ RACD30/RACT20

3 **PANEL LIGHTS/TROFFERS**
Square (2x2) or rectangular (4x2) panel lights mounted in suspended ceilings with acrylic lens for bright and task lighting in offices and commercial spaces or subtle glow for ambient effect. LED-based panel lights vary from 40W to 120W to provide the required lumen output.
Recommendation: RACD12/RACD20/ RACD30/RACD60/RCD-24

4 **LANDSCAPE LIGHTING**
Accentuating the natural splendor of gardens and landscapes, they provide both beauty and security to your home. These lights require low voltage drivers powered by an external transformer or solar panels, and protection against climate conditions.
Recommendation: RCD-24/W, RACD03

5 **OUTDOOR LAMPS**
Post top lights, porch lights or security lights; they highlight the beauty of a home and bring a sense of safety. In the face of diverse weather conditions, the reliability of these lamps is crucial and depend on a high level of ingress protection.
Recommendation: RACD60/IP67, RACD03 or RCD-24/W, RACD20

6 **WALL SCONCE**
Waiting rooms, entrance ways and hallways all benefit from the graceful style and ambience a wall light provides. The creative freedom, flexibility, and energy savings LED's provide make a range of power options key.
Recommendation: RACD06/RACD12/ RACD20, RACT 20

7 **RECESSED LIGHTING**
Recessed lighting has become a very popular option especially for new construction and remodels. With a LED based recessed system the LED drivers are mounted directly into the junction box or ceiling space and provide illumination for larger areas.
Recommendation: RACD06/RACD12/ RACD20/RACD60

8 **HIGH BAY LIGHTING**
Nearly every warehouse and industrial building require super bright high bay lighting that can illuminate from ceilings up to 40 ft tall in some instances. LED replacements are now greatly reducing their energy consumption and maintenance costs starting with the driver.
Recommendation: RACD60, RCD-48

9 **BOLLARD LIGHTING**
Both beautiful and functional, bollard lights are used for outdoor path illumination. An LED-based bollard will require low power and reliable LED drivers that are protected against adverse climate conditions.
Recommendation: RACD03/RACD06

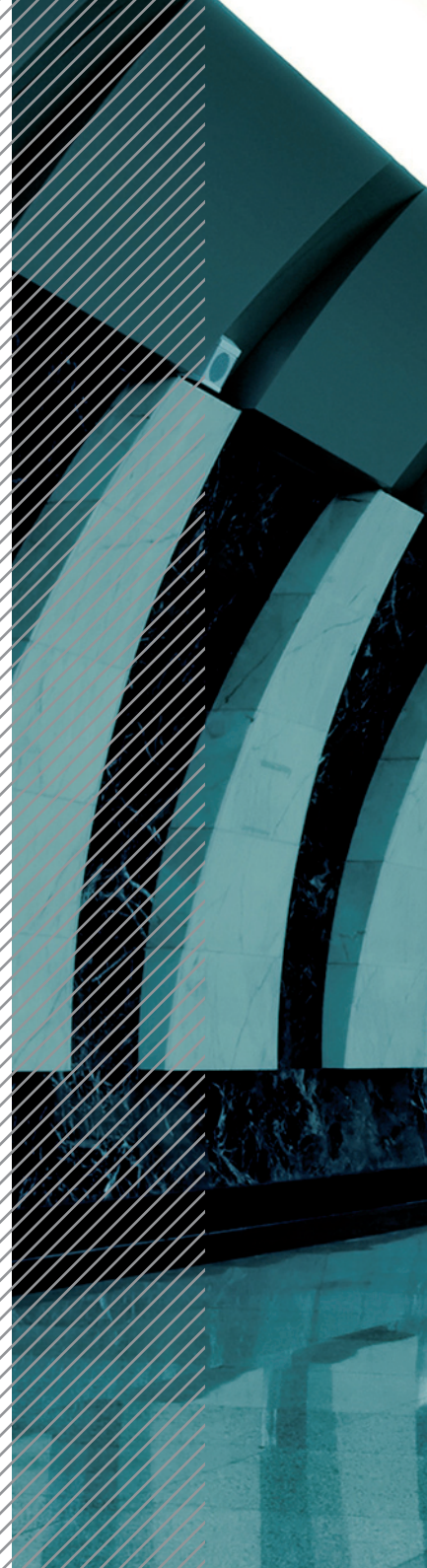
10 **PARKING LOT**
Parking lot lights must meet many regulatory standards for illumination and energy savings. High efficiency, high power LED drivers are required to meet both requirements. Automatic sensors for better usability, safety and energy control are also becoming standard.
Recommendation: RACD60/RACD60/IP67, RCD-48/ RBD-12

Light is essential to modern life; it allows us to live our lives to our own rhythms and keeps us happy. LED lighting has inaugurated a revolution – more interaction, new form factors and innovative control systems that lead to a completely new quality of light.

RECOM Lighting was founded with the vision of helping the lighting industry to adopt to the lighting revolution. We see LED lighting opportunities today similar to the days when Carl Benz started the automotive revolution some 120 years ago. He turned the concept of the automobile into a working vehicle, but still needed many refinements and technical advances to get a practical, reliable and affordable motor car. Recom Lighting offers competent advice and products that help accelerate the development of LED lighting solutions into equally practical, reliable and affordable LED lights.

Recom Lighting designs and manufactures lighting solutions, offers LED drivers and supplies component parts to help our customers illuminate almost anything one could think of, from solar powered path lighting in city parks to trains and buses, shopping centres and airports.

We continually communicate with and learn from our customers in order to improve our products and services. As technology evolves, we will continually re-evaluate our products and services we offer to our customers. We supply the engines that drive the LED lighting vehicle – dimmable drivers that make lighting systems more efficient, or make the LED lights last longer, or protect our environment. All combined with the commitment and world class support of a true global player!



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LIGHTING

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