

Sense the power of light

amul OSRAM



# Transportation Two Wheeler

Selection Guide

OS Mobility and Illumination (OS MIL)  
07/2024

Sense the power of light

## Introduction

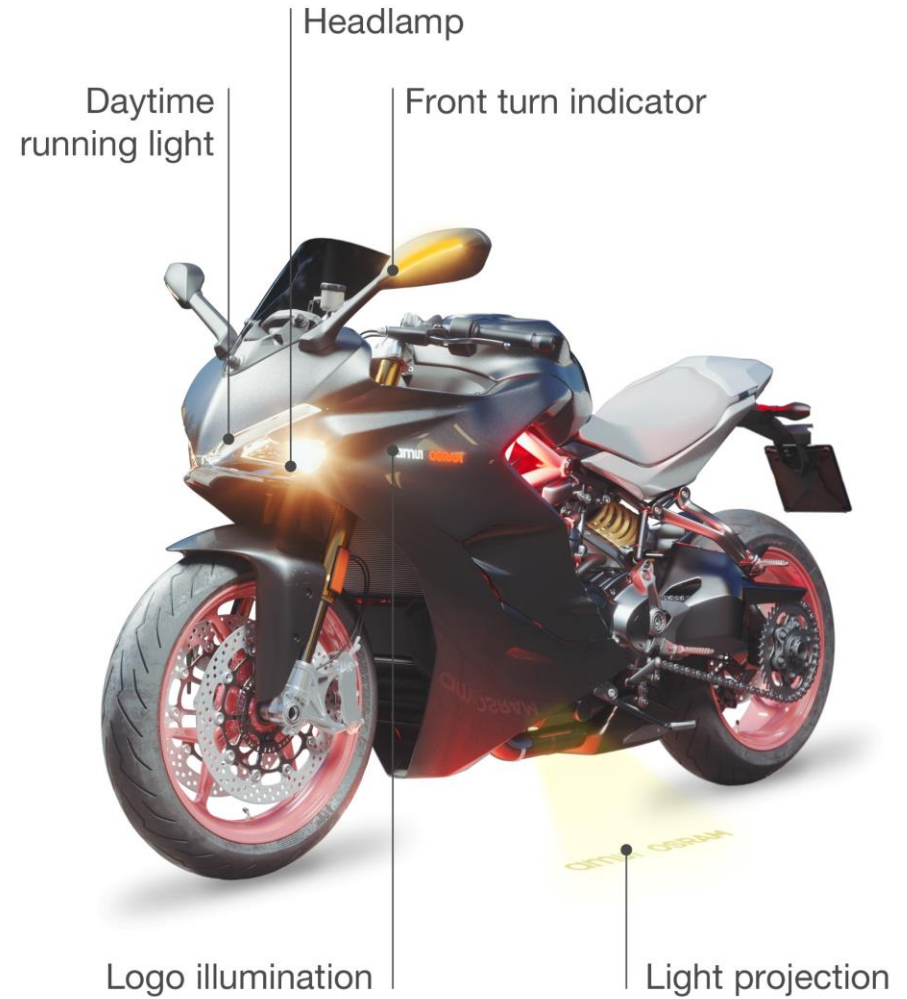
This “Selection Guide” offers a curated list of products that are recommended for **Two Wheeler Transportation Applications**.

These recommended products have been carefully **chosen from our broader portfolio** to assist you in making sound decisions. This guide aims to highlight the best options, ensuring you find the most suitable products for your needs.

For further information on product details and other options in our portfolio, please contact our Sales Representative or visit our website. [www.ams-osram.com](http://www.ams-osram.com)

# Motorbike

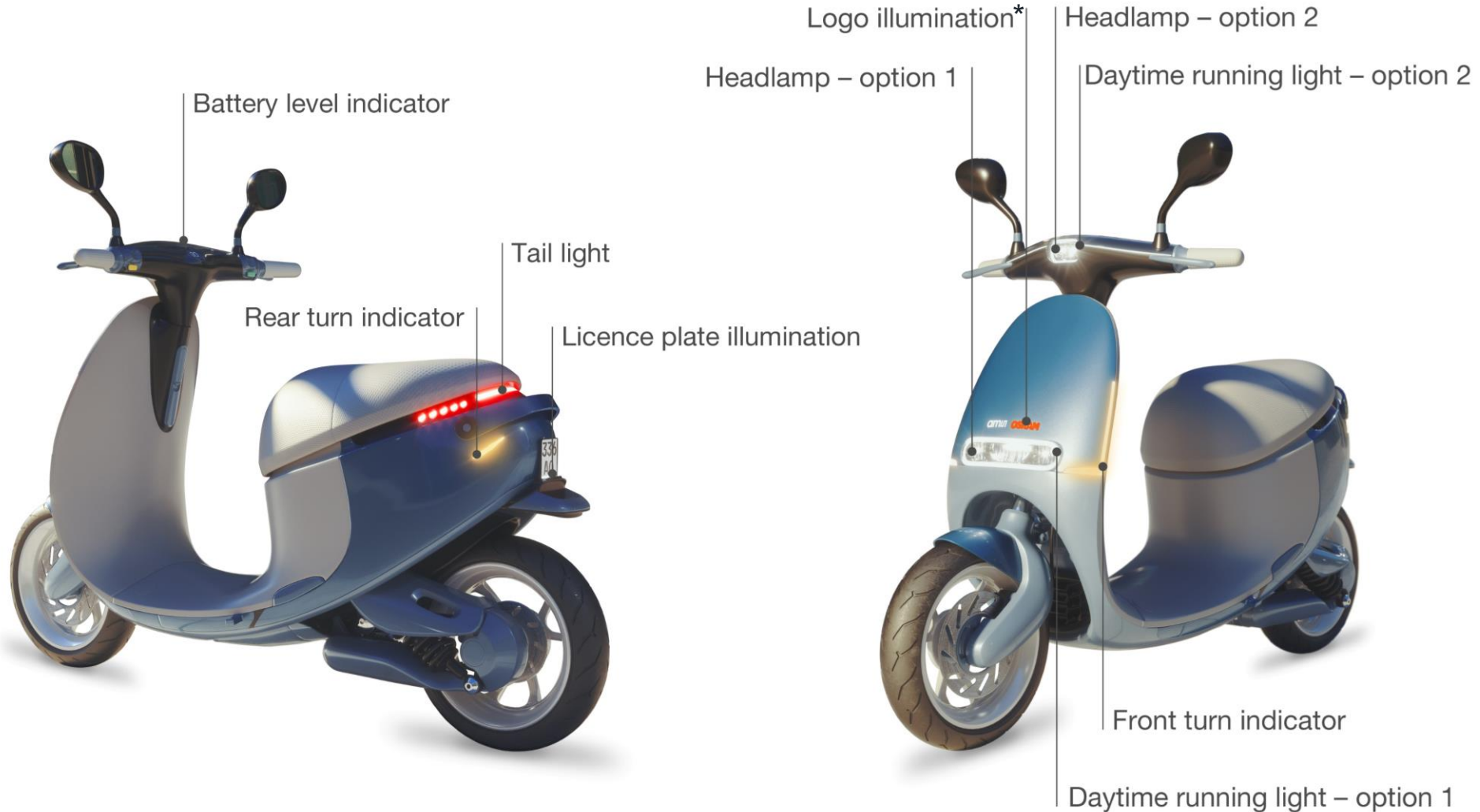
## Applications Overview



Logo illumination at the front in colors other than white is not allowed.  
Our intention here is to generate ideas for non-regulated markets.

# E-Scooter

## Applications Overview



\* Logo illumination at the front in colors other than white is not allowed.  
Our intention here is to generate ideas for non-regulated markets.

# E-Bike

## Applications Overview



# E-Scooter

## Applications Overview

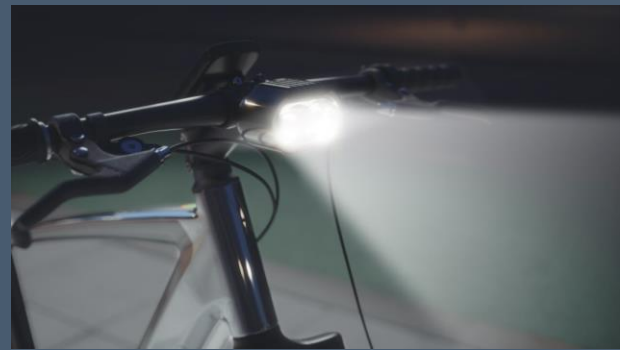


# Agenda

1. Headlamp
2. DRL
3. Tail Light & Turn Indicator
4. Cluster and Switch Backlights
5. Display
6. License Plate & Logo Illumination
7. Projection
8. Body Lighting
9. Operation Light
10. Battery Level Indicator

# Transportation - Two Wheeler - Headlamp


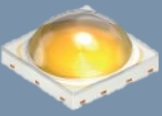

LEDs are increasingly used in headlamps of motorbikes; given their obvious advantages of high efficiency and long life. Due to a high electrical efficiency of the light sources, low thermal management efforts and the possibility to use low-cost PCBs, a cost optimized system can be designed. By reducing the driving current while still keeping the required brightness even “heatsinkless” headlamps become possible.



E-bike, E-Scooter and Micro-E-Scooter headlamps ensure optimum illumination of the road even in poor ambient lighting conditions and enable safe riding through urban traffic.

# Transportation - Two Wheeler - Headlamp

## Recommended Products

	<b>OSLON® Compact PM</b>	KW CDLMM1.TK	<ul style="list-style-type: none"><li>• smallest LED dimensions good for small lense or reflector design</li><li>• Automotive (AEC Q 102) qualified</li></ul>
	<b>OSLON® Compact PL</b>	KW CWLPM3.TK KW CELNM3.TK	<ul style="list-style-type: none"><li>• compact LED dimensions with high efficacy</li><li>• Automotive (AEC Q 102) qualified</li></ul>
	<b>OSLON® Black Flat S</b>	KW HHL532.TK (1-chip) 1- to 5-chip available	<ul style="list-style-type: none"><li>• best lm/€ value with high efficacy</li><li>• Automotive (AEC Q 102) qualified</li></ul>
	<b>OSCONIQ® P3737</b>	GW PUSRA1.PM GW PUSTA1.PM	<ul style="list-style-type: none"><li>• Superior lifetime &amp; corrosion-resistance performance</li><li>• Single 3737 footprint covering extensive application range 1W – 9W</li><li>• Excellent LM80: L90B50 &gt;100khr</li></ul>
	<b>OSLON® SIGNAL</b>	LUW CRBP.01	<ul style="list-style-type: none"><li>• cost efficient, best in price, high efficacy</li><li>• lensed device for smaller secondary optics</li><li>• isolated heat sink</li></ul>
	<b>OSLON® Boost HM</b>	KW CELMM2.TK	<ul style="list-style-type: none"><li>• compact LED dimensions with highest luminance</li><li>• slim design applications with small lense</li><li>• Automotive (AEC Q 102) qualified</li></ul>

# Transportation - Two Wheeler – Daytime Running Light






Daytime Running Lights (DRL) contribute to a safe environment for road users and drivers. Currently Two Wheeler manufacturers use DRL to differentiate from each other via various designs and shapes.



# Transportation - Two Wheeler - Daytime Running Light

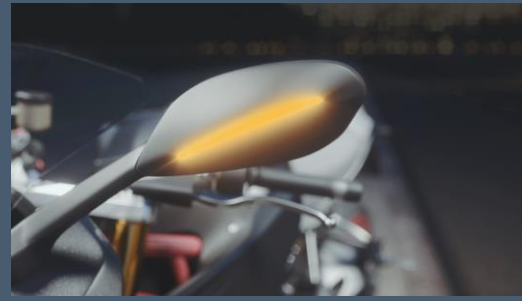
## Recommended Products

	<b>OSLON® Compact PM</b>	KW CDLMM1.TK	<ul style="list-style-type: none"><li>• smallest LED dimensions good for small lense or reflector design</li><li>• Automotive (AEC Q 102) qualified</li></ul>
	<b>OSLON® Compact PL</b>	KW CWLPM3.TK KW CELNM3.TK	<ul style="list-style-type: none"><li>• compact LED dimensions with high efficacy</li><li>• Automotive (AEC Q 102) qualified</li></ul>
	<b>SYNIOS® P2720</b>	KW DMLx33.SG	<ul style="list-style-type: none"><li>• scalability of this product family provides full performance and flexibility with just one footprint</li><li>• Automotive (AEC Q 102) qualified</li></ul>
	<b>SYNIOS® S2222</b>	KW DDLM32.EH	<ul style="list-style-type: none"><li>• compact LED dimensions</li><li>• Centered chip / square LES</li><li>• high efficacy (lm/W) and Outdoor corrosion robustness</li></ul>
	<b>OSCONIQ® S3030</b>	GW QSLMS3.EM	<ul style="list-style-type: none"><li>• high efficacy &gt;220 (lm/W) and good corrosion robustness</li><li>• compact 30x30 LED dimensions</li><li>• High lifetime L90 &gt; 50k hours</li></ul>
	<b>SYNIOS® P2222</b>	KW DDLN31.SK	<ul style="list-style-type: none"><li>• compact LED dimensions</li><li>• excellent thermal resistance</li><li>• Automotive (AEC Q 102) qualified</li></ul>

# Transportation - Two Wheeler – Tail Light & Turn Indicator

The latest trends of **tail light** designs are homogeneous area illuminations. The usage of LED enables the motorbike, E-Scooter, E-Bike and Micro E-scooter manufacturer to create lighting signatures combining safety and design.

**Turn indicators** keep road users protected when changing directions. Following a design-driven approach allowing more design freedom, LEDs for turn indicators enable miniaturization and can be used in various styles.



# Transportation - Two Wheeler - Tail Light & Turn Indicator

## Recommended Products

	<b>TOPLED®.01</b>	LA/R/S/Y T67F.01	<ul style="list-style-type: none"> <li>• high robustness</li> <li>• low power class</li> <li>• Automotive (AEC Q 102) qualified</li> </ul>
	<b>PowerTOPLED®.01</b>	LA/R/S/Y E67F.01 Lx E6xF LA/Y ETSF	<ul style="list-style-type: none"> <li>• high robustness</li> <li>• mid power class</li> <li>• Automotive (AEC Q 102) qualified</li> </ul>
	<b>SYNIOS® P2720</b>	KY DMLx31.23 KY DMLx31.FY KR/S DMLx31.23	<ul style="list-style-type: none"> <li>• scalability of this product family provides full performance and flexibility with just one footprint</li> <li>• Automotive (AEC Q 102) qualified</li> </ul>
	<b>SYNIOS® P1515</b>	Kx SITQA1.23	<ul style="list-style-type: none"> <li>• Homogeneous area backlighting with limited height requirements</li> <li>• Automotive (AEC Q 102) qualified</li> </ul>
	<b>SYNIOS® P2222</b>	KY DDLN31.FY Kx DDLN31.23	<ul style="list-style-type: none"> <li>• compact LED dimensions</li> <li>• excellent thermal resistance</li> <li>• Automotive (AEC Q 102) qualified</li> </ul>
	<b>SYNIOS® S2222</b>	KY DDLM32.FY KY/S/R DDLM32.23	<ul style="list-style-type: none"> <li>• compact LED dimensions</li> <li>• Centered chip / square LES</li> <li>• high efficacy (lm/W) &amp; Outdoor corrosion robustness</li> </ul>


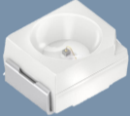
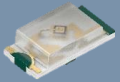

# Transportation - Two Wheeler – Cluster and Switch Backlight

Despite of new upcoming application trends functional illumination continues to play a major role for motorbike cockpits and backlighting switches and buttons.



# Transportation - Two Wheeler – Cluster and Switch Backlight

## Recommended Products

	<b>TOPLED® E1608</b>	KB/KW DELPS2.xx KB/KW DELSS2.xx KT DELQS1.12/DELSS1.12 KR/S/O/Y DELPS1.22	<ul style="list-style-type: none"><li>• smallest package, wide choice of colors</li><li>• best in price</li><li>• Automotive (AEC Q 102) qualified</li></ul>
	<b>TOPLED® .01</b>	LA/R/S/Y/O T67F.01	<ul style="list-style-type: none"><li>• high robustness</li><li>• low power class</li><li>• Automotive (AEC Q 102) qualified</li></ul>
	<b>SmartLED® 0603</b>	KB/KT EELP41.12 KW EELP41.RU KG/O/R/S/Y EELP41.22	<ul style="list-style-type: none"><li>• Small size offers perfect solution at space limited applications</li><li>• flat backlighting of keypads, switches and dashboards</li><li>• Power saving due to high intensity and low forward voltage</li></ul>
	<b>PointLED®</b>	LB / LW P4SG, LT PWSG LA/LO/LR/LS/LY P4SF LCB / LW P4SD	<ul style="list-style-type: none"><li>• round reflector</li><li>• top and reverse-mount, full color spectrum</li><li>• Automotive ( AEC Q 101) qualified</li></ul>

# Transportation - Two Wheeler – Display



The display is the interface between you and your motorbike. The LEDs for motorbike LCD displays developed by ams OSRAM have the highest lumen output in the market. This ensures perfect visibility & illumination of the display – even in strong sunlight or under poor lighting conditions.

# Transportation - Two Wheeler - Display

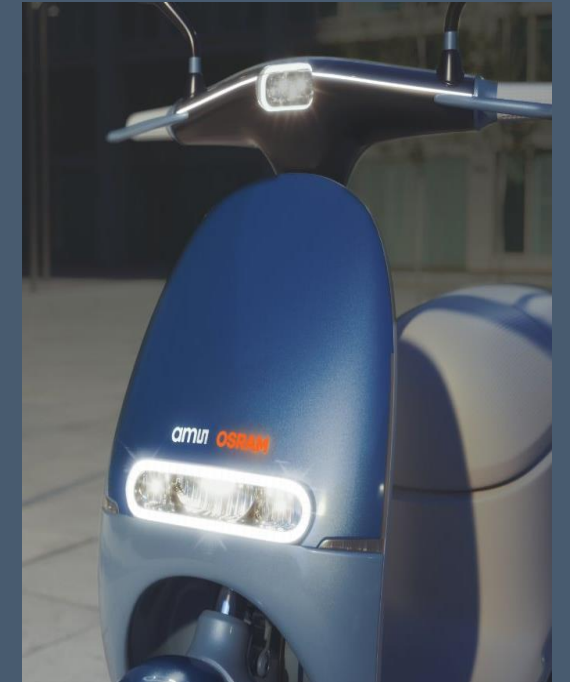
## Recommended Products

	<b>SYNIOS® E1515</b>	KW SITQA1.KD	<ul style="list-style-type: none"><li>• Top lid for optimized radiation characteristics for homogeneous backlights</li><li>• Automotive (AEC Q 102) qualified</li></ul>
	<b>SYNIOS® E4014</b>	KW DPLS34.K2	<ul style="list-style-type: none"><li>• on-screen color gamut of 110% NTSC</li><li>• Automotive (AEC Q 102) qualified</li></ul>
	<b>TOPLED® E 3014</b>	KW DCLMS2.EC LUW JLSH.01	<ul style="list-style-type: none"><li>• ideal for injecting in light guides for homogeneous illumination</li><li>• wide beam angle</li></ul>
	<b>Micro SIDELED®</b>	KRTB AILMS1 CUW Y3SH.B2 / Lx Y1SG Lx Y876 / Lx Y8SF	<ul style="list-style-type: none"><li>• Compact Sidelooker LED</li><li>• Low profile 0.6 - 1.0 mm height</li><li>• Full Color portfolio, White &amp; RGB Versions</li></ul>

# Transportation - Two Wheeler – License Plate and Logo Illumination

**License plate** lights perfectly light up the area on the back of the motorbike so that road users can see the license plate clearly at all times.







**Logo illumination\*** is used to accentuate and emphasize the night design of the motorbike in order to better differentiate it from others. It is realized by few very small, thin, and powerful LEDs that are able to illuminate a wider space with multiple colors and at a homogeneous beam angle.



\* Logo illumination at the front in colors other than white is not allowed. Our intention here is to generate ideas for non-regulated markets.

# Transportation - Two Wheeler - License Plate and Logo Illumination

## Recommended Products

	<b>SYNIOS® P2720</b>	KW DMLx33.SG Kx DMLx31.23	<ul style="list-style-type: none"> <li>scalability of this product family provides full performance and flexibility with just one footprint</li> <li>Automotive (AEC Q 102) qualified</li> </ul>
	<b>SYNIOS® P2222</b>	KW DDLN31.SK Kx DDLN31.23	<ul style="list-style-type: none"> <li>compact LED dimensions, excellent thermal resistance</li> <li>Automotive (AEC Q 102) qualified</li> </ul>
	<b>TOPLED® E1608</b>	KW DELPS2.RA KW DELSS2.RA etc.	<ul style="list-style-type: none"> <li>smallest package, wide choice of colors</li> <li>best in price</li> <li>Automotive (AEC Q 102) qualified</li> </ul>
	<b>SYNIOS® P1515</b>	Kx SITQA1.23	<ul style="list-style-type: none"> <li>Homogeneous area backlighting with limited height requirements</li> <li>Automotive (AEC Q 102) qualified</li> </ul>
	<b>SYNIOS® S 2222</b>	KW DDLM32.EH Kx DDLM32.23	<ul style="list-style-type: none"> <li>compact LED dimensions</li> <li>Centered chip /square LES</li> <li>high efficacy &amp; Outdoor corrosion robustness</li> </ul>
	<b>OSCONIQ® E 2835</b>	GW QTLTS1.EM	<ul style="list-style-type: none"> <li>Best reliability vs performance ratio</li> <li>H2S resistance with L70&gt;120khrs lifetime</li> <li>1000cycle of Temperature cycle test</li> </ul>

# Transportation - Two Wheeler – Projection



Motorbike projection applications are an upcoming, rapidly growing segment. These special projections are able to merge with the outer surroundings and therefore seamlessly blend into the view of the driver providing him driving assistance in various situations. Future applications will also include augmented/mixed reality HUDs.

# Transportation - Two Wheeler - Projection

## Recommended Products



**OSLON® Compact PM**

KW CDLMM2.TK

- Smallest LED dimensions
- Automotive (AEC Q 102) qualified



**OSLON® Boost HM**

KW CELMM2.TK

- compact LED dimensions with highest luminance
- Automotive (AEC Q 102) qualified

## Transportation - Two Wheeler – Body Lighting



Accent lighting enables motorbike owners to individually design the motorbike body according to their preferences. Stylish light structures in various colors create »eye-catching« motorbikes; thus, increasing possibilities for motorbike owners to personalize their bike.

# Transportation - Two Wheeler - Body Lighting

## Recommended Products

	<b>OSIRE® E3635</b>	<div style="border: 1px solid orange; padding: 2px; display: inline-block;">             Successor from              Sept '24 onwards           </div>	<b>LRTBGVSR</b> <b>LRTBGWSR</b>	<ul style="list-style-type: none"> <li>• RGB LED in one package</li> <li>• Automotive (AEC Q 102) qualified</li> </ul>
	<b>PowerTOPLED®.01</b>		<b>LA/R/S/Y E67F.01</b> <b>Lx E6xF</b> <b>LA/Y ETSF</b>	<ul style="list-style-type: none"> <li>• high robustness</li> <li>• mid power class</li> <li>• Automotive (AEC Q 102) qualified</li> </ul>
	<b>SYNIOS® P2720</b>		<b>KW DMLx33.SG</b> <b>Kx DMLx31.23</b>	<ul style="list-style-type: none"> <li>• scalability of this product family provides full performance and flexibility with just one footprint</li> <li>• Automotive (AEC Q 102) qualified</li> </ul>
	<b>SYNIOS® P2222</b>		<b>KW DDLN31.SK</b> <b>Kx DDLN31.23</b>	<ul style="list-style-type: none"> <li>• compact LED dimensions, excellent thermal resistance</li> <li>• Automotive (AEC Q 102) qualified</li> </ul>
	<b>SYNIOS® S2222</b>		<b>KW DDLM32.EH</b> <b>Kx DDLM32.13</b> <b>Ky DDLM32.23</b>	<ul style="list-style-type: none"> <li>• compact LED dimensions</li> <li>• Centered chip /square LES</li> <li>• high efficacy &amp; Outdoor corrosion robustness</li> </ul>
	<b>DURIS® E2835</b>		<b>GW JTLPS1.EM</b> <b>GW JTLMS1.EM</b> <b>Gx JTLPS1.xx</b>	<ul style="list-style-type: none"> <li>• Best price vs performance ratio</li> <li>• Wide range of colors available</li> <li>• Standard 2835 footprint</li> </ul>


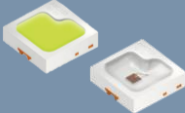
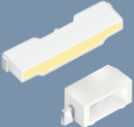
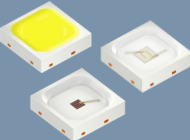
## Transportation - Two Wheeler – Operating Light



Operating lights are essential to find out if a micro e-scooter is in operation and ready to be used. Especially from afar it is sometimes hard to detect the status of micro e-scooters. LEDs from ams OSRAM simplify that process by lighting up homogeneously in green or red respectively.

# Transportation - Two Wheeler – Operating Light

## Recommended Products

	<b>TOPLED® E1608</b>	KB/KW DELPS2.xx KB/KW DELSS2.xx KT DELQS1.12/DELSS1.12 KR/S/O/Y DELPS1.22	<ul style="list-style-type: none"> <li>• smallest package, wide choice of colors</li> <li>• best in price</li> <li>• Automotive (AEC Q 102) qualified</li> </ul>	
	<b>OSIRE® E3635</b>	Successor from Sept '24 onwards	LRTBGVSR LRTBGWSR	<ul style="list-style-type: none"> <li>• RGB LED in one package</li> <li>• Automotive (AEC Q 102) qualified</li> </ul>
	<b>SYNIOS® P2222</b>	KW DDLN31.SK Kx DDLN31.23	<ul style="list-style-type: none"> <li>• compact LED dimensions, excellent thermal resistance</li> <li>• Automotive (AEC Q 102) qualified</li> </ul>	
	<b>DURIS® E2835</b>	GW JTLPS1.EM GW JTLMS1.EM Gx JTLPS1.xx	<ul style="list-style-type: none"> <li>• Best price vs performance ratio</li> <li>• High CRI offering</li> <li>• Wide range of CCT and Colors available</li> </ul>	
	<b>Micro SIDELED®</b>	KRTB AILMS1 CUW Y3SH.B2 / Lx Y1SG Lx Y876 / Lx Y8SF	<ul style="list-style-type: none"> <li>• Compact Sidelooker LED</li> <li>• Low profile 0.6 - 1.0 mm height</li> <li>• Full Color portfolio, White &amp; RGB Versions</li> </ul>	
	<b>SYNIOS® S2222</b>	KW DDLM32.EH Kx DDLM32.13 Ky DDLM32.23	<ul style="list-style-type: none"> <li>• compact LED dimensions</li> <li>• Centered chip /square LES</li> <li>• high efficacy &amp; Outdoor corrosion robustness</li> </ul>	

# Transportation - Two Wheeler – Battery Level Indication



In e-mobility distance is of the essence. Thus, knowing how much a battery is charged can be very helpful. With the LEDs of ams OSRAM the E-Bike driver is given constant feedback on battery status. The colour of the LED lights can be used to indicate different charging level of the battery ranging from red (low) to yellow (medium), green (high) and white.

# Transportation - Two Wheeler – Battery Level Indicator

## Recommended Products

	<b>TOPLED® E1608</b>	KB/KW DELPS2.xx KB/KW DELSS2.xx KT DELQS1.12/DELSS1.12 KR/S/O/Y DELPS1.22	<ul style="list-style-type: none"> <li>• smallest package, wide choice of colors</li> <li>• best in price</li> <li>• Automotive (AEC Q 102) qualified</li> </ul>	
	<b>OSIRE® E3635</b>	Successor from Sept '24 onwards	LRTBGVSR LRTBGWSR	<ul style="list-style-type: none"> <li>• RGB LED in one package</li> <li>• Automotive (AEC Q 102) qualified</li> </ul>
	<b>SmartLED® 0603</b>	KB/KT EELP41.12 KW EELP41.RU KG/O/R/S/Y EELP41.22	<ul style="list-style-type: none"> <li>• Small size offers perfect solution at space limited applications</li> <li>• flat backlighting of keypads, switches and dashboards</li> <li>• Power saving due to high intensity and low forward voltage</li> </ul>	
	<b>Chip LED 0603</b> <b>Chip LED 0402</b>	Kx Q9xx.01 KR EGLP41.22 Lx QHxG	<ul style="list-style-type: none"> <li>• Standard market 0603 and 0402 size and footprint</li> <li>• Improved corrosion robustness</li> </ul>	
	<b>Multi TOPLED</b>	LSG T676, LSY T676 LSG T67K	<ul style="list-style-type: none"> <li>• Bicolor - PLCC4 package</li> <li>• Good performance / price ratio</li> <li>• Automotive ( AEC Q101) qualified</li> </ul>	