HIGH QUALITY ELECTRONICS AND LED LIGHTING SOLUTIONS FOR VEHICLES

CME

PRODUCT CATALOGUE
COMPANY

CME-Lux Oy has supplied electronics for commercial vehicles since 1992. Our high-quality and multi-purpose products have consolidated their place together with the customer-oriented approach we take.

Our product range consists of interior lighting systems that are easy to install and have low running costs for the duration of their lifespan. Our main focus is LED lighting, the quality of which is top-notch and designed much more with the end user in mind than is the case with traditional lighting systems. Other products in our range include automatic battery chargers, voltage and power supplies, as well as various bespoke customer solutions.

Our products are designed and manufactured in Finland and are primarily intended to meet the specific requirements of vehicles, be of high quality, and have low running and maintenance costs. With our network of high-quality design partners we are able to offer an unrivalled combination of modern and reliable products that provide our customers with added value. Thousands of buses have benefited from our high-quality products and can already be seen travelling the highways and byways of Europe.

Please, don’t hesitate to be in touch - we’ll be happy to tell you more about our products and operational practices.

CME R&D

Determined to be the technological leader in the vehicle lighting industry, we value our customers and their needs. Therefore we invest in relentless development and refining of our products to meet the highest quality demands. Our electronic products have been tested and approved according to the current EC standards and our quality has been approved according to ISO 9001. All our products have 24 months guarantee.

PARTNERS

Cooperation and partnerships are key issues also at CME-Lux Oy. As a networked company we cooperate with partners in raw materials, components, sub-assembling and marketing. Our distributors in different countries are provided with the latest technical and marketing information to ensure their success in their market with CME products.

Want to become a partner, please contact us and we will send you more info about the different possibilities to increase your sales with the CME product range.
In recent years we have focused our efforts on LED lighting techniques, developing top quality LED lamps with versatile functions and programmable control. The starting point for our design work is always the quality of our components, taking into account the specific nature of the surroundings, and the benefits that we can provide our clients in terms of the long-term savings in comparison to fluorescent lighting.

We continuously develop our products and quickly roll out new lines so that our customers can benefit from the general trends in technological advances. Naturally, all of our products are retro compatible and this also makes it easier for the customer to upgrade their purchases. We also provide fluorescent lighting solutions.

It is quick and easy to retrofit strip lights with LED elements in order to turn them into fully-functioning LED lights. Upgrade measures have the power to increase the lifespan of bus lights, as well as bring about notable reductions in maintenance and repair costs over the course of their period of use. Moreover, the problematic waste associated with fluorescent lights can be reduced and the need to invest as a replacement parts diminished.

**TECHNICAL DATA**

<table>
<thead>
<tr>
<th></th>
<th>LED Inverter</th>
<th>LED Element</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input voltage nom</td>
<td>12 – 24Vdc</td>
<td>12 pcs LEDs + 3 blue LEDs</td>
</tr>
<tr>
<td>Input voltage range</td>
<td>10 – 32Vdc</td>
<td></td>
</tr>
<tr>
<td>Dimming</td>
<td>35%, 100%, Night light or stepless 0-100% by PWM</td>
<td>0-100% by PWM</td>
</tr>
<tr>
<td>Angle and output</td>
<td></td>
<td>120°- 4,5 W – 170 lux@1 m</td>
</tr>
<tr>
<td>Color</td>
<td></td>
<td>4000 K</td>
</tr>
<tr>
<td>Temperature range</td>
<td>-40°... + 65°C</td>
<td>-40°... + 65°C</td>
</tr>
<tr>
<td>Connections</td>
<td>2,8 mm AMP</td>
<td></td>
</tr>
<tr>
<td>Dimensions mm LxWxH</td>
<td>62 x 28 x 8</td>
<td>420 x 28 x 4</td>
</tr>
<tr>
<td>Weight</td>
<td>14 g</td>
<td>22 g</td>
</tr>
<tr>
<td>CME product number</td>
<td>91010</td>
<td>810006</td>
</tr>
</tbody>
</table>
CME–LED modules are an optimized solution for automotive use, the input range is 10-32V and the integrated control system guarantees a long lifespan even in harsh environments. The modules are optimized for a lifespan of 50,000 hours – 70% and need no cooling to achieve this lifetime. The modules can be connected to light lines and used without dimming, or dimming between 0 – 100% by PWM (pulse width modulation) or dimming with 2-steps. The modules can be easily installed also as replacement for the current fluorescent lighting. One Led inverter can be connected up to four led elements making it possible to form a single lighting element that is up to 1680mm long. Every led element contains three blue colored nighttime led lights.

EL-Series lighting is surface mountable and a very low fixture, suitable especially for lighting lines. The base is aluminium and the diffuser is polycarbonate, clear or milk white. The ease of installation and maintenance is a significant benefit for bus- and coachbuilders as well as for traffic companies. The shape of the diffuser enables a strong light distribution and this element is used for single lightlines up to 7 meters in citybuses.
**EL 930**

CME product number: 81009

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**EL 1200**

CME product number: 81012
EL 1500

CME product number: 81015

EL 1800

CME product number: 81018
**EL 2100**

CME product number: 81021

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**EL 2400**

CME product number: 81024
EL 2700

CME product number: 81027

EL 3900

CME product number: 81039
ELECTRONIC BALLASTS

ID 14W, 21W, 28W

CME ballasts are pulse width modulated or 2-step regular ballasts for T5 fluorescent tubes with a thin and small outlook. Stepless dimming between 0–100%. The product meets the EC2006/104 directive.

W x D x H / 145 mm x 39 mm x 20 mm, weight 0.140 kg.

030228 CME product number 200160

ID 18 – 36W

ID 18-36W is a universal model which can be used to replace most of the ballasts between 18W– 36W with 2-step or no dimming. The product has proven to be one of the most reliable solutions in the market. The reliability has been increased with 2-sided PCB with carefully chosen components.

W x D x H / 195 mm x 40 mm x 25 mm, weight 0.165 kg.

020042 CME product number 200180

ID 14W, 21W, 28W

CME ballasts are pulse width modulated or 2-step regular ballasts for T5 fluorescent tubes with a thin and small outlook. Stepless dimming between 0–100%. The product meets the EC2006/104 directive.

W x D x H / 145 mm x 39 mm x 20 mm, weight 0.140 kg.

030228 CME product number 200160

14W ..... 200160
21W ..... 200170
28W ..... 200180
SMART CHARGERS

SMART CHARGER (SC)

Smart Chargers are “switch on and forget”-chargers. Smart Charger ensures the best possible results in all conditions – even though one is using the charger from a badly adjusted AC-power source, such as a generator. The models can be delivered with different cabling and connection options.

<table>
<thead>
<tr>
<th>SC</th>
<th>Output power</th>
<th>Input voltage</th>
<th>Charge current</th>
<th>Efficiency ratio</th>
<th>Power factor</th>
<th>Weight (kg)</th>
<th>(W x D x H)</th>
<th>Usage temp.</th>
<th>Output ripple</th>
<th>CME product number:</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC</td>
<td>20A 12V – 24V</td>
<td>90 - 255 VAC</td>
<td>20 A</td>
<td>&gt;86%</td>
<td>1</td>
<td>1,5</td>
<td>230 x 112 x 73</td>
<td>-25°C... +40°C</td>
<td>&lt;200mV peak to peak</td>
<td>Shucko cable 500122, 500132, 500140, 500150</td>
</tr>
<tr>
<td></td>
<td>30A 12V – 24V</td>
<td>90 - 255 VAC</td>
<td>30 A</td>
<td>&gt;86%</td>
<td>1</td>
<td>1,5</td>
<td>230 x 112 x 73</td>
<td>-25°C... +40°C</td>
<td></td>
<td>Defa -cable 500120, 500130</td>
</tr>
<tr>
<td></td>
<td>60A 12V – 24V</td>
<td>90 - 255 VAC</td>
<td>60 A</td>
<td>&gt;86%</td>
<td>1</td>
<td>1,9</td>
<td>267 x 135 x 85</td>
<td>-25°C... +40°C</td>
<td></td>
<td>Calix -cable 500121, 500130</td>
</tr>
<tr>
<td></td>
<td>127A 12V – 24V</td>
<td>90 - 255 VAC</td>
<td>127 A</td>
<td>&gt;86%</td>
<td>1</td>
<td>2,3</td>
<td>80 x 250 x 400</td>
<td>-25°C... +40°C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Voltage depends on battery.
SC Robust chargers are designed to operate with different types of batteries in demanding conditions. With one Smart Charger you can handle most common type of batteries. Charge programs of special batteries are also available. 24 months guarantee.

SC 40 A ROBUST
Output power          1100W - 3000W
Input voltage         -90 - 255VAC
Charge current        -40A
Efficiency ratio      >86%
Power factor          1

SC 40 A Passive cooling  300 x 230 x 107 (wdh, mm) CME product number: 500180
SC 40 A Fan cooling    327 x 230 x 83   CME product number: 500181
SC 80 A Fan cooling    367 x 230 x 83   CME product number: 500183
SC 105 A Fan cooling   367 x 230 x 83   CME product number: 500184
SMART CHARGER PRO WP 24V20A

Smart Charger PRO WP 24V20A is compact and fully waterproof charger for all kind of batteries. SC PRO is compatible with lead, gel and AGM batteries. These firmly covered models can be installed in hard circumstances without any loss of quality.

- 12 V
- Cables 4-6 mm²
- High efficiency ratio >95%
- Overheat protection
- Charge program AGM/GEL
- Charge program CaCa/std
- Charge program traction
- Power supply
- Temperature optimized charge
- Waterproof, IP67
- Compact metallic cover
- Easy to install

CME product number: 500171
Smart Charger WP 12V and WP 24V are compact and fully water proof chargers for all types of batteries. The microprocessor based construction allows charging by battery type. These rugged models can be installed in harsh environments without disturbing the functions of the device. IP 65.

<table>
<thead>
<tr>
<th>SC WP</th>
<th>12V 7A 100W</th>
<th>12V 17A 250W</th>
<th>12V 30A</th>
<th>24V 20A</th>
<th>24V 12A 300W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input voltage</td>
<td>90 - 255 V</td>
<td>90 - 255 V</td>
<td>90 - 255 V</td>
<td>90 - 255 V</td>
<td>90 - 255 V</td>
</tr>
<tr>
<td>Output voltage</td>
<td>14,4/13,8</td>
<td>14,4/13,8</td>
<td>12</td>
<td>24</td>
<td>28,8/27,5</td>
</tr>
<tr>
<td>Efficiency</td>
<td>94,00%</td>
<td>94,00%</td>
<td>94,00%</td>
<td>94,00%</td>
<td>94,00%</td>
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<tr>
<td>Operating temp.</td>
<td>-30...+50C</td>
<td>-30...+50C</td>
<td>-30...+50C</td>
<td>-30...+50C</td>
<td>-30...+50C</td>
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<tr>
<td>WxDxH mm</td>
<td>138x77x42</td>
<td>198x98x46</td>
<td>198x98x46</td>
<td>198x98x46</td>
<td>198x98x46</td>
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<tr>
<td>Weight kg</td>
<td>0,8</td>
<td>1,2</td>
<td>1,2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shuko input cable</td>
<td>&lt;</td>
<td>1,5 m</td>
<td>&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output cable</td>
<td>&lt;</td>
<td>1,5 m / 4 mm2 with fuse</td>
<td>&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CME prod. number:</td>
<td>500170</td>
<td>500192</td>
<td>500174</td>
<td>500173</td>
<td>500182</td>
</tr>
</tbody>
</table>
DC-DC Converter works with the latest switching technology in DC-DC conversion which gives the converters an efficiency of over 96%. The high efficiency results in low heat generation, and therefore power loss is minimal. The internal electronics is protected against wrong polarization and short-circuit which prevents damage to the device by misuse.

The standard enclosure is IP 21 classified with protective coating on the electronics, but all models can be ordered with IP 67 classification.

All models have ON/OFF function for remote use.

- Wide range of models
- High efficiency >96%
- Overheating protection
- Polarity protection
- Current limited
- Short-circuit protection
- Safe to use
- Easy to install
- Small and compact
- User friendly
- DIN mount (option)
- Galvanic isolated

**MODELS AND SPECIFICATIONS**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>12-12</th>
<th>12-12</th>
<th>12-24</th>
<th>24-12</th>
<th>24-12</th>
<th>24-24</th>
<th>24-24</th>
<th>24-24</th>
<th>48-12</th>
<th>48-24</th>
<th>48-12</th>
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<tbody>
<tr>
<td>ARTICLE</td>
<td>60300</td>
<td>60310</td>
<td>60311</td>
<td>60303</td>
<td>60312</td>
<td>60304</td>
<td>60312</td>
<td>60324</td>
<td>60332</td>
<td>60333</td>
<td>60322</td>
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<tr>
<td>OUTPUT</td>
<td>12V</td>
<td>12V</td>
<td>24V</td>
<td>12V</td>
<td>12V</td>
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<td>12V</td>
<td>12V</td>
<td>12V</td>
<td>12V</td>
</tr>
<tr>
<td>POWER</td>
<td>100W</td>
<td>200W</td>
<td>200W</td>
<td>100W</td>
<td>200W</td>
<td>400W</td>
<td>100W</td>
<td>200W</td>
<td>400W</td>
<td>200W</td>
<td>200W</td>
</tr>
<tr>
<td>ENCLOSURE</td>
<td>IP21</td>
<td>IP21</td>
<td>IP21</td>
<td>IP21</td>
<td>IP65</td>
<td>IP21</td>
<td>IP65</td>
<td>IP21</td>
<td>IP21</td>
<td>IP21</td>
<td>IP65</td>
</tr>
<tr>
<td>CONNECTIONS</td>
<td>6,3mm</td>
<td>6,3mm</td>
<td>6,3mm</td>
<td>6,3mm</td>
<td>cables</td>
<td>6,3mm</td>
<td>6,3mm</td>
<td>cables</td>
<td>6,3mm</td>
<td>6,3mm</td>
<td>6,3mm</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>200g</td>
<td>215g</td>
<td>215g</td>
<td>200g</td>
<td>215g</td>
<td>600g</td>
<td>200g</td>
<td>215g</td>
<td>600g</td>
<td>215g</td>
<td>215g</td>
</tr>
</tbody>
</table>

ALL MODELS HAVE AN EFFICIENCY OF >96% AND ON/OFF FUNCTION
POWER SUPPLIES & VOLTAGE REGULATOR

SMART POWER

Smart Power offers top quality technology in a compact size. In order to ensure durability and quality top class-components have been used in the manufacturing of the power supply. The LCD display shows the adjustable voltage and current in the power supply. The output voltage can be adjusted between 0–108 V and current up to 30 A.

Models available:
- 18V – 0 50 A
- 36V – 0 30 A
- 54V – 0 20 A
- 72V – 0 15 A
- 108V – 0 10 A
- 144V – 0 7,5 A

XTC VOLTAGE REGULATOR PWM

XTC Voltage Regulators have been developed to adjust the rotation speed of a DC-motor or the light capacity of an electric bulb. XTC Voltage Regulator PWM (pulse width modulation) can be used to adjust the rotation speed of a DC motor such as a ventilator. Adjusting rate stepless between 0–100%.

PWM –version technical data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Absolute voltage and current</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>XTC 24-20/PWM/REV4</td>
</tr>
<tr>
<td>+VDC_IN</td>
<td>+20V...+30V</td>
</tr>
<tr>
<td>+VDC_IN(pulse/load dump)</td>
<td>+58V / 1 s</td>
</tr>
<tr>
<td>+ VDC_OUT</td>
<td>0V... +VDC_IN –0,5V</td>
</tr>
<tr>
<td>PWM_IN</td>
<td>+20V...+30V(HI), 0... +4V(LO)</td>
</tr>
<tr>
<td>(PWM_IN)</td>
<td>200Hz&lt;f&lt;1KHz</td>
</tr>
<tr>
<td>Iout (VDC_OUT)</td>
<td>0A...15A</td>
</tr>
<tr>
<td>lin (VDC_IN)</td>
<td>0A...15A</td>
</tr>
<tr>
<td>W x D x H</td>
<td>135 mm x 85 mm x 45 mm</td>
</tr>
</tbody>
</table>

CME product number: 400181