High Performance LED Light Engines and Modules

TECOH®
Who We Are

Artificial light enhances the way we live and work. It brings us safety, comfort and productivity. MEGAMAN® is committed to providing light in a way that is truly sustainable, energy-saving and of such a quality that it brings a positive difference into the lives of all who use the company’s innovative LED lighting solutions.

MEGAMAN® is proud to be the only major brand to have exclusively manufactured low-energy lighting products throughout its entire history, offering more than 20 years of industry expertise and innovation to the lighting market.

Beginning in 1994 with the highly successful production of CFL light sources, MEGAMAN® has evolved to become a complete low-energy lighting solutions provider. MEGAMAN® has built a reputation for producing high-performance LED light sources that offer a true replacement for traditional metal halide and halogen – combining quality lighting performance with substantial energy savings.

MEGAMAN® is now applying its market-leading experience to an even wider range of lighting solutions including revolutionary Smart Lighting control, a full range of components and a suite of low-energy fixtures.

- The MEGAMAN® range now includes more than 400 high-quality light sources;
- MEGAMAN®’s TECOH® Light Engines and Modules range provides low-energy serviceable solutions for fixture makers worldwide;
- MEGAMAN® now offers Smart Lighting Control with INGENIUM® BLU and ZB – providing further energy saving potential by giving users full lighting control via their smart device;
- MEGAMAN® now offers a full suite of lighting solutions for both indoor and outdoor applications;
- MEGAMAN® operates in over 90 countries across Europe, Asia-Pacific, the Middle East, Africa, North and South America, the USA and Canada;
- Our advanced research and development facilities ensure a continuous supply of new and exciting energy-efficient lighting products come to market every year.

MEGAMAN® continues to play a lead role in combating climate change and carbon emissions by pursuing continuous innovation in the production of low-energy lighting solutions.
MEGAMAN® MILESTONES

2016
Introduction of Perfect White and INGENIUM® ZB technologies into TECOH® range

2015
Expansion of TECOH® range with TECOH® APx

2014
Launched first smart lighting range, INGENIUM® BLU
Industry first full range of Dim to Warm LED products
Widen TECOH® range with THx and DFx

2013
Expansion of the TECOH® offering with Zhaga style RDx and FLx modules

2012
Patented LED module - TECOH® Mhx
TECOH® CFx – World’s first 2000lm Zhaga Book2 Light Engine

2011
RG technology introduced to LED range
The first NVLAP lab certification for LED products

2010
Launched the first MEGAMAN® LED Candle and Classic International office for Professional Marketing opens in Europe

2009
Innovative Thermal Conductive Highway™ technology incorporated into MEGAMAN® LED reflectors
NVLAP lab certification for CFL products

2008
Amalgam technology is employed in full CFL range

2007
DIMMERABLE® technology introduced to CFL range

2005
DorS technology introduced to CFL range
Industry first RoHS compliant CFL
MEGAMAN® goes global, selling lamps in over 90 countries

2004
INGENIUM® technology is introduced to CFL lamps for long life and short preheating time

2002
Industry first CFL GU10 reflector launched
Introduced Silicone Protection technology to CFL range

1999
Patented Cooling-Tube technology introduced to CFL range

1997
Industry first candle-shaped CFL launched

1996
Industry first classic-shaped CFL launched

1994
MEGAMAN® incorporated
Rigorous Quality and Management Systems

All MEGAMAN® products are designed, tested and produced in our own factories in Xiamen, China. Standards have been implemented factory-wide to ensure the MEGAMAN® manufacturing processes deliver innovative, reliable and safe products with high-quality standards now and in the future.

To ensure that MEGAMAN® products comply with the highest quality standards, company manufacturing plants are equipped with their own assembly lines. The in-house laboratory is ISO 17025 certified by CNAS and NVLAP, and is eligible to perform on-site testing for Intertek, TÜV Rheinland, UL and Energy Star.

The MEGAMAN® business runs under the most stringent management and quality systems. The green elements of the production process are maximised, employee welfare is prioritised and the company is socially responsible to the local community. To continually develop these areas, MEGAMAN® has undertaken a range of international accreditations. These include:

- **Quality Management System**

- **Corporate Social Responsibility**
  MEGAMAN® has received OHSAS 18001:2007 and SA 8000:2008, confirming the level of care for employees and reinforcing the company’s pledge to be socially responsible.

- **Controlling the Use of Hazardous Substances**
  Controlling the use of hazardous substances MEGAMAN® plants are QC 080000 certified, underlining the fact that company manufacturing processes are closely monitored to ensure ultimate control of hazardous substances.

- **Product Quality Assurance**
  MEGAMAN® products are made using premium quality materials and innovative technologies within stringent control measures, to deliver maximum performance and energy efficiencies.
TECOH® — the New Technology

The MEGAMAN® TECOH® LED portfolio consists of a range of high performance LED Light Engines (LLE’s) and modules.

TECOH® comes in different shapes, sizes and lumen packages to address a wide range of different applications. The range includes socketable and non-socketable solutions with either integrated (LED Light Engine) or non-integrated (module) electronic driver.

TECOH® CFx (socketable with integrated electronic driver)

MEGAMAN®’s TECOH® CFx range of high performance twist-lock LED Light Engines has an integrated driver for general lighting. The TECOH® CFx range is designed in line with Zhaga Specification Book 2. MEGAMAN®’s TECOH® CFx light engines are intended to be used in downlights for general lighting applications such as hotel lobbies, restaurants, supermarkets, reception area’s and many more. With nominal lumen packages of 1200 and 2000 lumen, TECOH® CFx LLE’s are developed as energy efficient LED alternatives for conventional light sources such as 50W halogen and 2 x 13W and 2 x 18W compact fluorescent lamps.

MEGAMAN®’s TECOH® CFx CF0120 versions are the world’s first 2000 lumen LED Light Engines designed in line with Zhaga Specification Book 2.

TECOH® RDx (non-socketable for remote electronic driver)

The TECOH® RDx are round disc LED modules which are non-socketable and require an external electronic driver.

The TECOH® RDx modules are designed in line with Zhaga Interface Specification Book 3 and offer lumen packages of 1086 up to 19163lm at Tc = 25°C with efficacies up to 177lm/W, all in the compact size.

These high performance compact round disc modules are ideal for use in spotlight fixtures, track-, down- and floodlighting. Suitable for or a wide variety of applications such as accent and display lighting, show-window lighting but also in illumination of reception areas, hotel lobbies, galleries and restaurants.

TECOH® FLx (non-socketable for remote electronic driver)

The MEGAMAN® TECOH® FLx is a range of rectangular shaped LED modules designed, where available, in line with Zhaga Interface Specification Book 7. TECOH® FLx have efficacies up to 170lm/W resulting in energy classes A++.

These high performance linear modules are a perfect energy efficient alternative to traditional compact fluorescent and circular fluorescent lighting.

TECOH® DFx (socketable for remote electronic driver)

TECOH® DFx are compact, rectangular shaped LED modules designed, where available, in line with Zhaga Interface Specification Book 7. TECOH® FLx have efficacies up to 170lm/W resulting in energy classes A++.

These high performance linear modules are a perfect energy efficient alternative to traditional compact fluorescent and circular fluorescent lighting.

TECOH® PLx (non-socketable for remote electronic driver)

The TECOH® PLx are hand-shaped LED modules. These highly efficient modules are the ideal fluorescent alternatives for flat luminaires with diffuse covers.

PLx modules are self-cooling and so do not need specially designed heat-sinks for reliable operation.

TECOH® FLx can be used in general lighting applications such as, but not limited too, direct lighting in offices, schools, meeting rooms, corridors and many more.

TECOH® DFx are compact, rectangular shaped LED modules specially designed for ambient lighting. Different luminaire shapes and sizes can be addressed by using single or by connecting multiple units.

DFx modules can be used behind diffusers as a flexible, long lasting and highly efficient alternative to traditional compact fluorescent and circular fluorescent lighting.

TECOH® PLx (non-socketable for remote electronic driver)

The TECOH® PLx are hand-shaped LED modules. These highly efficient modules are the ideal fluorescent alternatives for flat luminaires with diffuse covers.

PLx modules are self-cooling and so do not need specially designed heat-sinks for reliable operation.
TECOH® APx (non-socketable with integrated electronic driver)

TECOH® APx is an LED light engine with on board driver for easy installation. TECOH® APx operates directly from the mains. This LLE option allows a LED upgrade in fixtures lacking space for external driver integration.

TECOH® THx (non-socketable with integrated and remote electronic driver options)

TECOH® THx modules and LED Light Engines offer an alternative to the higher energy consuming PAR16, AR111 and MR16 halogen products. All solutions have optics built-in, some versions even have the driver built into the LLE to allow an easy tough unique upgrade to highly efficient LED lighting. The unique construction prevents mis-use by retrofitting high energy consuming halogen products.

TECOH® RLx (non-socketable for remote electronic driver)

The TECOH® RLx are round shaped constant current LED modules mainly intended for general lighting applications. The modules are to be used with a diffuse cover. The RLx modules allows for cost competitive LED upgrades.

TECOH® the New Technology
LED MODULES

- TECOH® FLx
- TECOH® PLx
- TECOH® DFx
- TECOH® THx
- TECOH® RLx
- TECOH® RDx
LED MODULES

TECOH® FLx

The MEGAMAN® rectangular-shaped TECOH® FLx is a perfect replacement for fluorescent lights

Designed as a perfect replacement for conventional fluorescent lighting in new luminaires, the MEGAMAN® TECOH® FLx is a rectangular-shaped range of LED modules. Where applicable, the modules are designed in line with the Zhaga Interface Specification Book 7. Different lumen packages and sizes are available for different lighting installations and combinations. The lengths of 280mm or 560mm can be mixed and matched to make up to the regular fluorescent tube lengths of 0.6m, 1.2m and 1.5m.

As the perfect alternative for fluorescent lamps to be used in linear and flat luminaires with diffuse covers, this innovative LED module is used in a wide range of general lighting applications such as direct lighting in offices, schools, meeting rooms, corridors, supermarkets and manufacturing halls, and so on. Some of its attractive features include:

Product Features

• Highly efficient lighting solutions with energy label A+ and A++ and efficacies up to 170lm/W
• Long lamp life of 50,000 hours
• Simple interconnection of the LED modules makes them a flexible solution suitable for continuous line configurations without gaps and dark zones
• Designed to operate on standard 700mA constant current drivers
• Wide range of operating temperatures from -30°C to +50°C
• Capable of linear dimming from 100% to 1% when used with a DC1-10V dimming driver and DC1-10V dimmer
• Self-cooling modules that do not need specially designed heat-sinks
• RichColour range available with Ra90
• Colour consistency is ≤3 SDCM

Range extended with

• High output versions up to 4400 lumen
• 8mm FLx modules for application in sidelit panels
• Tunable white FLx colour changing modules capable of following the circadian rhythm

Please visit www.megamantecoh.com for the latest information on the TECOH® family.
# LED MODULES

**TECOH® FLx**

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**Powered by LED Driver**

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### High Efficacy Range (Gen3) - in 20mm width

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<th>Product Code</th>
<th>Input Current (mA)</th>
<th>Nominal Voltage (V DC)</th>
<th>Wattage (W)</th>
<th>Luminous Flux at Tc 25°C (lm)</th>
<th>Luminous Efficiency at Tc 25°C (mW)</th>
<th>Luminous Flux at Tc 85°C (lm)</th>
<th>Luminous Efficiency at Tc 85°C (mW)</th>
<th>Colour Temp. [CRI]</th>
<th>Life Time at L70 B10 and Tc 85°C (hrs)</th>
<th>Length (mm)</th>
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### High Efficacy Range - in 20mm width

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<th>Product Code</th>
<th>Input Current (mA)</th>
<th>Nominal Voltage (V DC)</th>
<th>Wattage (W)</th>
<th>Luminous Flux at Tc 25°C (lm)</th>
<th>Luminous Efficiency at Tc 25°C (mW)</th>
<th>Luminous Flux at Tc 85°C (lm)</th>
<th>Luminous Efficiency at Tc 85°C (mW)</th>
<th>Colour Temp. [CRI]</th>
<th>Life Time at L70 B10 and Tc 85°C (hrs)</th>
<th>Length (mm)</th>
<th>Width (mm)</th>
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<th>Energy Label</th>
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</tbody>
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1 A dimming feature is available and performance can be enhanced by driver choice.
2 Other width feasible upon request.
## LED MODULES

### TECOH® FLx

**Standard Range in 20mm width**

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Input Current (mA)</th>
<th>Nominal Voltage (V DC)</th>
<th>Wattage (W)</th>
<th>Luminous Flux at Tc: 25°C (lm)</th>
<th>Luminous Efficiency at Tc: 25°C (lm/W)</th>
<th>Luminous Flux at Tc: 85°C (lm)</th>
<th>Luminous Efficiency at Tc: 85°C (lm/W)</th>
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<th>Height (mm)</th>
<th>Energy Label</th>
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**High Efficacy RichColour Range in 20mm width**

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<th>Luminous Flux at Tc: 25°C (lm)</th>
<th>Luminous Efficiency at Tc: 25°C (lm/W)</th>
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<td>FL0411R9/930-L56W2</td>
<td>700</td>
<td>12</td>
<td>8</td>
<td>900</td>
<td>113</td>
<td>880</td>
<td>110</td>
<td>3000K [&gt;Ra90]</td>
<td>50000</td>
<td>124</td>
<td>30</td>
<td>6.7</td>
<td>A++</td>
<td>20</td>
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<tr>
<td>FL0411R9/940-L56W2</td>
<td>700</td>
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<td>970</td>
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<td>30</td>
<td>6.7</td>
<td>A++</td>
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<tr>
<td>FL0311R9/930-L28W2</td>
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<td>8</td>
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<td>880</td>
<td>110</td>
<td>3000K [&gt;Ra90]</td>
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<td>30</td>
<td>6.7</td>
<td>A++</td>
<td>20</td>
</tr>
<tr>
<td>FL0311R9/940-L28W2</td>
<td>700</td>
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<td>8</td>
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<td>970</td>
<td>121</td>
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<td>30</td>
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<td>A++</td>
<td>20</td>
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<td>A++</td>
<td>40</td>
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<td>A++</td>
<td>40</td>
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</table>

1. A dimming feature is available and performance can be enhanced by driver choice.
2. Other width feasible upon request.

**Powered by LED Driver**

1. Dimmable
2. SDCM ≤3

---

12 MEGAMAN®
**LED MODULES**

**Powered by LED Driver**

### 350mA Operation

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Input Current (mA)</th>
<th>Nominal Voltage (V DC)</th>
<th>Wattage (W)</th>
<th>Luminous Flux at Tc 25°C (lm)</th>
<th>Luminous Efficacy at Tc 25°C (lm/W)</th>
<th>Luminous Flux at Tc 65°C (lm)</th>
<th>Luminous Efficacy at Tc 65°C (lm/W)</th>
<th>Colour Temp. [CRI]</th>
<th>Life Time at L70 B10 and Tc ≤ 70°C (hrs)</th>
<th>Length (mm)</th>
<th>Width (mm)</th>
<th>Height (mm)</th>
<th>Energy Label</th>
<th>No. of LED</th>
</tr>
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<tbody>
<tr>
<td>FL4832/840-L36W23.8</td>
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<td>3390</td>
<td>151</td>
<td>3180</td>
<td>141</td>
<td>4000K [Ra80]</td>
<td>50000</td>
<td>599.7</td>
<td>23.8</td>
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<td>44</td>
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<td>FL4832/840-L84W2</td>
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<td>22.5</td>
<td>3390</td>
<td>151</td>
<td>3180</td>
<td>141</td>
<td>4000K [Ra80]</td>
<td>50000</td>
<td>599.7</td>
<td>23.8</td>
<td>6.7</td>
<td>A++</td>
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</tr>
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<td>FL5935/840-L112W2</td>
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<td>30</td>
<td>3300</td>
<td>110</td>
<td>3200</td>
<td>107</td>
<td>4000K [Ra80]</td>
<td>50000</td>
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<td>FL6058/840-L140W2</td>
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<td>30</td>
<td>3300</td>
<td>110</td>
<td>3200</td>
<td>107</td>
<td>4000K [Ra80]</td>
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<td>24</td>
<td>6.7</td>
<td>A+</td>
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<td>FL6142/840-L140W2</td>
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<td>30</td>
<td>3300</td>
<td>110</td>
<td>3200</td>
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<td>4000K [Ra80]</td>
<td>50000</td>
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<td>24</td>
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<td>A+</td>
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<td>FL5744/840-L112W2</td>
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<td>4050</td>
<td>148</td>
<td>4000K [Ra80]</td>
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<td>1308</td>
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<td>6.7</td>
<td>A++</td>
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### Special Lengths

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Input Current (mA)</th>
<th>Nominal Voltage (V DC)</th>
<th>Wattage (W)</th>
<th>Luminous Flux at Tc 25°C (lm)</th>
<th>Luminous Efficacy at Tc 25°C (lm/W)</th>
<th>Luminous Flux at Tc 65°C (lm)</th>
<th>Luminous Efficacy at Tc 65°C (lm/W)</th>
<th>Colour Temp. [CRI]</th>
<th>Life Time at L70 B10 and Tc ≤ 70°C (hrs)</th>
<th>Length (mm)</th>
<th>Width (mm)</th>
<th>Height (mm)</th>
<th>Energy Label</th>
<th>No. of LED</th>
</tr>
</thead>
<tbody>
<tr>
<td>FL6258/840-L140W2</td>
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<td>63</td>
<td>30</td>
<td>3300</td>
<td>110</td>
<td>3200</td>
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<td>4000K [Ra80]</td>
<td>50000</td>
<td>1120</td>
<td>24</td>
<td>6.7</td>
<td>A+</td>
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</tr>
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<td>FL6379/840-L140W2</td>
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<td>30</td>
<td>3300</td>
<td>110</td>
<td>3200</td>
<td>107</td>
<td>4000K [Ra80]</td>
<td>50000</td>
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<td>6.7</td>
<td>A+</td>
<td>58</td>
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<tr>
<td>FL5744/840-L112W2</td>
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<td>64</td>
<td>21.4</td>
<td>4500</td>
<td>164</td>
<td>4050</td>
<td>148</td>
<td>4000K [Ra80]</td>
<td>50000</td>
<td>1308</td>
<td>20</td>
<td>6.7</td>
<td>A++</td>
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<td>FL5855/840-L140W2</td>
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<td>34</td>
<td>5600</td>
<td>166</td>
<td>5100</td>
<td>150</td>
<td>4000K [Ra80]</td>
<td>50000</td>
<td>1308</td>
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<td>6.7</td>
<td>A++</td>
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1. A dimming feature is available and performance can be enhanced by driver choice.
2. Other width feasible upon request.
LED MODULES

TUNABLE WHITE RANGE IN 280MM/560MM LENGTH AND 40MM WIDTH

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Input Current (mA)</th>
<th>Nominal Voltage for 1 Channel Only (V DC)</th>
<th>Nominal Voltage for 2 Channels (V DC)</th>
<th>Wattage for 1 Channel Only (W)</th>
<th>Wattage for 2 Channels (W)</th>
<th>Luminous Flux at Tc 25°C (lm)</th>
<th>Luminous Flux at Tc 85°C (lm)</th>
<th>Colour Temp. [CRI]</th>
<th>Life Time at L70 B10 and Tc 85°C (hrs)</th>
<th>Length (mm)</th>
<th>Width (mm)</th>
<th>Height (mm)</th>
<th>Energy Label</th>
<th>No. of LED</th>
</tr>
</thead>
<tbody>
<tr>
<td>FL0722/828-L28W4</td>
<td>700</td>
<td>24</td>
<td>8</td>
<td>16</td>
<td>48</td>
<td>2250</td>
<td>141</td>
<td>1100</td>
<td>138</td>
<td>2800K [Ra80]</td>
<td>50000</td>
<td>280</td>
<td>40</td>
<td>6.7 A++ 20</td>
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<tr>
<td>FL0722/865-L28W4</td>
<td>700</td>
<td>24</td>
<td>8</td>
<td>16</td>
<td>48</td>
<td>2250</td>
<td>141</td>
<td>1100</td>
<td>138</td>
<td>4000K [Ra80]</td>
<td>50000</td>
<td>280</td>
<td>40</td>
<td>6.7 A++ 20</td>
</tr>
<tr>
<td>FL0722/828-865-L28W4</td>
<td>700</td>
<td>24</td>
<td>8</td>
<td>16</td>
<td>48</td>
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<td>138</td>
<td>4000K [Ra80]</td>
<td>50000</td>
<td>560</td>
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<td>6.7 A++ 80</td>
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<tr>
<td>FL0844/828-L56W4</td>
<td>700</td>
<td>24</td>
<td>48</td>
<td>16</td>
<td>32</td>
<td>2250</td>
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<td>2200</td>
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<td>2800K [Ra80]</td>
<td>50000</td>
<td>560</td>
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<tr>
<td>FL0844/865-L56W4</td>
<td>700</td>
<td>24</td>
<td>48</td>
<td>16</td>
<td>32</td>
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<td>138</td>
<td>4000K [Ra80]</td>
<td>50000</td>
<td>560</td>
<td>40</td>
<td>6.7 A++ 40</td>
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<tr>
<td>FL0844/828-865-L56W4</td>
<td>700</td>
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<td>48</td>
<td>16</td>
<td>32</td>
<td>4500</td>
<td>141</td>
<td>4400</td>
<td>138</td>
<td>4000K [Ra80]</td>
<td>50000</td>
<td>560</td>
<td>40</td>
<td>6.7 A++ 80</td>
</tr>
</tbody>
</table>

1 A dimming feature is available and performance can be enhanced by driver choice.
2 CCT range 2800K to 6500K is at min. 1100lm. Max. luminous flux at full power is 2200lm and 4400lm.
3 CCT range 2800K to 6500K is at min. 2200lm. Max. luminous flux at full power is 4400lm and 4000K.
4 CCT range 2800K to 6500K is at min. 1100lm. Max. luminous flux at full power is 2200lm and 4400K.

High Output Range in 40mm width

<table>
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<tr>
<th>Product Code</th>
<th>Input Current (mA)</th>
<th>Nominal Voltage for 1 Channel Only (V DC)</th>
<th>Wattage for 2 Channels (W)</th>
<th>Luminous Flux at Tc 25°C (lm)</th>
<th>Luminous Flux at Tc 85°C (lm)</th>
<th>Colour Temp. [CRI]</th>
<th>Life Time at L70 B10 and Tc 85°C (hrs)</th>
<th>Length (mm)</th>
<th>Width (mm)</th>
<th>Height (mm)</th>
<th>Energy Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>FL0922/830-L28W4</td>
<td>700</td>
<td>24</td>
<td>16</td>
<td>2500</td>
<td>125</td>
<td>3000K [Ra80]</td>
<td>50000</td>
<td>280</td>
<td>40</td>
<td>6.7 A++ 20</td>
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</tr>
<tr>
<td>FL0922/840-L28W4</td>
<td>700</td>
<td>24</td>
<td>16</td>
<td>2500</td>
<td>125</td>
<td>4000K [Ra80]</td>
<td>50000</td>
<td>280</td>
<td>40</td>
<td>6.7 A++ 20</td>
<td></td>
</tr>
<tr>
<td>FL1044/830-L56W4</td>
<td>700</td>
<td>48</td>
<td>32</td>
<td>4100</td>
<td>125</td>
<td>3000K [Ra80]</td>
<td>50000</td>
<td>560</td>
<td>40</td>
<td>6.7 A++ 80</td>
<td></td>
</tr>
<tr>
<td>FL1044/840-L56W4</td>
<td>700</td>
<td>48</td>
<td>32</td>
<td>4500</td>
<td>125</td>
<td>4000K [Ra80]</td>
<td>50000</td>
<td>560</td>
<td>40</td>
<td>6.7 A++ 80</td>
<td></td>
</tr>
</tbody>
</table>

1 A dimming feature is available and performance can be enhanced by driver choice.
2 Other width feasible upon request.
3 CCT range 2800K to 6500K is at min. 1100lm. Max. luminous flux at full power is 2200lm and 4000K.
4 CCT range 2800K to 6500K is at min. 2200lm. Max. luminous flux at full power is 4400lm and 4000K.

Powered by LED Driver
**LED MODULES**

A dimming feature is available and performance can be enhanced by driver choice.

### Powered by LED Driver

**Multiple Operation Range in 8mm width for Sidelite Applications**

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Input Current (mA)</th>
<th>Nominal Voltage (V DC)</th>
<th>Wattage (W)</th>
<th>Luminous Flux at Tc 25°C (lm)</th>
<th>Luminescent Efficiency at Tc 25°C (lm/W)</th>
<th>Luminous Flux at Tc 65°C (lm)</th>
<th>Luminescent Efficiency at Tc 65°C (lm/W)</th>
<th>Colour Temp [CRI]</th>
<th>Life Time at L70 B10 and Tc 85°C (hrs)</th>
<th>Length (mm)</th>
<th>Width (mm)</th>
<th>Height (mm)</th>
<th>Energy Label</th>
<th>No. of LED</th>
</tr>
</thead>
<tbody>
<tr>
<td>FL1814M/830-L57W0.8</td>
<td>350</td>
<td>30</td>
<td>10</td>
<td>1450</td>
<td>145</td>
<td>1350</td>
<td>135</td>
<td>3000K [Ra80]</td>
<td>50000</td>
<td>570</td>
<td>8</td>
<td>2.4</td>
<td>A++</td>
<td>70</td>
</tr>
<tr>
<td>FL1814M/840-L57W0.8</td>
<td>500</td>
<td>30</td>
<td>14.5</td>
<td>1900</td>
<td>131</td>
<td>1800</td>
<td>124</td>
<td>3000K [Ra80]</td>
<td>50000</td>
<td>570</td>
<td>8</td>
<td>2.4</td>
<td>A++</td>
<td>70</td>
</tr>
<tr>
<td>FL1814M/930-L57W0.8</td>
<td>350</td>
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<td>150</td>
<td>1400</td>
<td>140</td>
<td>4000K [Ra80]</td>
<td>50000</td>
<td>570</td>
<td>8</td>
<td>2.4</td>
<td>A++</td>
<td>70</td>
</tr>
<tr>
<td>FL1814M/930-L57W0.8</td>
<td>500</td>
<td>30</td>
<td>14.5</td>
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<td>134</td>
<td>1850</td>
<td>128</td>
<td>4000K [Ra80]</td>
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<td>570</td>
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<td>2.4</td>
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**Narrow off-centre Boards for Sidelite Applications**

<table>
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<th>Product Code</th>
<th>Input Current (mA)</th>
<th>Nominal Voltage (V DC)</th>
<th>Wattage (W)</th>
<th>Luminous Flux at Tc 25°C (lm)</th>
<th>Luminescent Efficiency at Tc 25°C (lm/W)</th>
<th>Luminous Flux at Tc 65°C (lm)</th>
<th>Luminescent Efficiency at Tc 65°C (lm/W)</th>
<th>Colour Temp [CRI]</th>
<th>Life Time at L70 B10 and Tc 85°C (hrs)</th>
<th>Length (mm)</th>
<th>Width (mm)</th>
<th>Height (mm)</th>
<th>Energy Label</th>
<th>No. of LED</th>
</tr>
</thead>
<tbody>
<tr>
<td>FL3118/843-L58W0.85</td>
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<td>28.5</td>
<td>12.8</td>
<td>1900</td>
<td>148</td>
<td>1800</td>
<td>141</td>
<td>4000K [Ra85]</td>
<td>50000</td>
<td>580</td>
<td>8.5</td>
<td>6.7</td>
<td>A++</td>
<td>60</td>
</tr>
<tr>
<td>FL3118/850-L58W0.85</td>
<td>450</td>
<td>28.5</td>
<td>12.8</td>
<td>1900</td>
<td>148</td>
<td>1800</td>
<td>141</td>
<td>5000K [Ra85]</td>
<td>50000</td>
<td>580</td>
<td>8.5</td>
<td>6.7</td>
<td>A++</td>
<td>60</td>
</tr>
<tr>
<td>FL3120/846-L58W0.85</td>
<td>350</td>
<td>43</td>
<td>15</td>
<td>2050</td>
<td>137</td>
<td>1950</td>
<td>130</td>
<td>4000K [Ra85]</td>
<td>50000</td>
<td>580</td>
<td>8.5</td>
<td>6.7</td>
<td>A++</td>
<td>75</td>
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</tbody>
</table>

### LED Constant Current Converter

- LD0213x1v-C350 (Input current: 350mA)
- FL1814M/830-L57W0.8
- FL1814M/840-L57W0.8
- FL1814M/930-L57W0.8

- LD0219x1v-C500 (Input current: 500mA)
- FL1814M/830-L57W0.8
- FL1814M/840-L57W0.8
- FL1814M/930-L57W0.8

TECOH®

MEGAMAN®

1. A dimming feature is available and performance can be enhanced by driver choice.
LED MODULES

TECOH® DFx

The MEGAMAN® compact rectangular TECOH® DFx specially designed for flexibility in ambient lighting

The TECOH® DFx is a rectangular-shaped LED module offering a high quality white light. To be used with diffusers as an alternative to traditional compact and circular fluorescent lighting, its lambertian distribution makes the TECOH® DFx perfect for ambient lighting applications.

The TECOH® DFx is a socketable solution, which means easy installation with no tools required. Single or multiple units can be used together to address installations of different shapes and sizes.

TECOH® DFx modules offer further flexibility through two output modes (High Efficiency and High Output) which can be changed by simply amending the input current.

Product Features
• Linear structured module compatible with BJB holder for easy installation
• Industry highest efficacy of 145lm/W
• Low power and voltage consumption allowing serial connection of up to 9 pcs and still being SELV compliant
• Flexible solution to cover wide range of diffuser based luminaires (round, square, small, large,…) 
• Energy saving alternative to traditional compact and circular fluorescent lighting
• Dimmable versions available

Please visit www.megamantecoh.com for the latest information on the TECOH® family.
## LED MODULES

**TECOH® DFx**

**Powered by LED Driver**

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Input Current (mA)</th>
<th>Nominal Voltage (V DC)</th>
<th>Voltage (W)</th>
<th>Luminous Flux at Tc at 25°C (lm)</th>
<th>Luminous Efficiency at Tc at 25°C (lm/W)</th>
<th>Luminous Flux at Tc at 65°C (lm)</th>
<th>Luminous Efficiency at Tc at 65°C (lm/W)</th>
<th>Colour Temp. [CRI]</th>
<th>Life Time at L70 B10 (hrs)</th>
<th>Length (mm)</th>
<th>Width (mm)</th>
<th>Height (mm)</th>
<th>Energy Label</th>
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<td>DFS0103.5M/830</td>
<td>350 6.2 2 270 128 265</td>
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<td>50 7</td>
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<td>A++</td>
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</table>

1. A dimming feature is available and performance can be enhanced by driver choice.
LED MODULES

TECOH® RLx

The TECOH® RLx are round shaped constant current LED modules mainly intended for general lighting applications

The TECOH® RLx are designed as energy efficient LED alternatives for conventional light sources such as halogen and compact fluorescent products in new luminaires.

Different lumen packages are available in the same size and with the same fixing holes allowing for multifunctional fixture design and flexible stocking.

The TECOH® RLx modules are to be used in combination with diffuse covers for optimum performance. The RLx range allows for cost competitive LED upgrades.

Product Features

• Energy efficient alternative to CFL and halogen in general lighting applications
• Long lamp life (L70 B10 at Tc 75°C) of 30,000 hours
• Different lumen packages with same size module and same fixing holes for flexibility
• High colour rendition of up to Ra82
• Colour consistency is ≤4 SDCM
• Operating temperature : -30°C to +40°C
• Dimmable

Please visit www.megamantecoh.com for the latest information on the TECOH® family.
**LED MODULES**

**TECOH® RLx**

A dimming feature is available and performance can be enhanced by driver choice.

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Input Current (mA)</th>
<th>Nominal Voltage (V DC)</th>
<th>Voltage (W)</th>
<th>Luminous Flux at Tc 25°C (lm)</th>
<th>Luminous Efficacy at Tc 25°C (lm/W)</th>
<th>Luminous Flux at Tc 85°C (lm)</th>
<th>Luminous Efficacy at Tc 85°C (lm/W)</th>
<th>Colour Temp. [CRI]</th>
<th>Life Time at L70 B10 and Tc 75°C (hrs)</th>
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<td>A+</td>
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</tbody>
</table>

1. A dimming feature is available and performance can be enhanced by driver choice.
TECOH® RDx offers excellent lumen packages of up to 19163lm*

The TECOH® RDx are round disc LED modules that are non-socketable and require an external electronic driver. Together, the module and driver form the LED Light Engine.

The TECOH® RDx have extreme high module efficacies up to 177lm/W*.

The TECOH® RDx modules are designed in line with Zhaga Interface Specification Book 3 and offer lumen packages of 1086 up to 19163 lumen* with just 20 models and 4 LES diameters.

These high-performance compact round disc modules are ideal for use in spotlight fixtures, tracklighting, downlighting and floodlighting a wide variety of applications, such as accent and display lighting, and show window lighting, as well as for the illumination of reception areas, hotel lobbies, galleries and restaurants.

Product Features
• Designed in line with Zhaga Interface Specification Book 3, enabling interchangeability and easy integration into fixtures
• High thermal (increased Tc limit of max. 85°C) and optical performance, enabling efficient and compact fixture designs
• Perfect White and Ultra RichColour options available for excellent colour rendering
• Packages from 1086 up to 19163 lumens* for multifunctional fixture design
• Small LES (11.2-24.5mm) for excellent beam control
• Modules designed for screw or screw-less mounting
• High efficient lighting solutions with an energy label of A++ when operated in High efficiency mode and normal mode
• Long lamp life (L70 B10) of up to 50,000 hours
• Colour consistency is ≤3 SDCM
• Operating temperature: -30°C to +40°C

* The rated luminous flux is declared at case temperature (Tc) 25°C. Please visit www.megamantecoh.com for the latest information on the TECOH® family.
**LED MODULES**

**TECOH® RDx Gen 3**

- **Powered by LED Driver**

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### Standard CRI

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Input Current (mA)</th>
<th>Typical Voltage at Tc 85°C (V DC)</th>
<th>Typical Wattage at Tc 85°C (W)</th>
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<th>Module Efficacy at Tc 25°C (lm/W)</th>
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<th>Module Efficacy at Tc 85°C (lm/W)</th>
<th>Colour Temp. [CRI]</th>
<th>Life Time at L70 B10 and Tc 85°C (hrs)</th>
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Preliminary data

1. A dimming feature is available and performance can be enhanced by driver choice.
### LED MODULES

#### TECOH® RDx Gen 3

**Preliminary data**

A dimming feature is available and performance can be enhanced by driver choice.

---

### Standard CRI

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Input Current (mA)</th>
<th>Typical Voltage at Tc 85°C (V DC)</th>
<th>Typical Wattage at Tc 85°C (W)</th>
<th>Luminous Flux at Tc 25°C (lm)</th>
<th>Module Efficacy at Tc 25°C (lm/W)</th>
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<th>Input Current (mA)</th>
<th>Typical Voltage at Tc 85°C (V DC)</th>
<th>Typical Wattage at Tc 85°C (W)</th>
<th>Luminous Flux at Tc 25°C (lm)</th>
<th>Module Efficacy at Tc 25°C (lm/W)</th>
<th>Colour Temp. [CRI]</th>
<th>Life Time at L70 B10 and Tc 85°C (hrs)</th>
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### Standard CRI

1. A dimming feature is available and performance can be enhanced by driver choice.

---

### Powered by LED Driver

- **50mm LES**
- **17mm SDCM**
- **5mm**

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22
LED MODULES

Powered by LED Driver

![Image of LED module](image)

**MEGAMAN® Ultra RichColour**

Technology provides high color rendering of up to Ra97 to optimize both the hue and saturation of colors.

**MEGAMAN® Standard LED Range (CRI 80)**

- Preliminary data
- A dimming feature is available and performance can be enhanced by driver choice.
## Ultra RichColour

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Input Current (mA)</th>
<th>Typical Voltage at To 85°C (V DC)</th>
<th>Typical Voltage at To 85°C (W)</th>
<th>Luminous Flux at To 25°C (lm)</th>
<th>Module Efficiency at To 85°C (lm/W)</th>
<th>Luminous Flux at To 85°C (lm)</th>
<th>Module Efficiency at To 85°C (lm/W)</th>
<th>Colour Temp. [CRI]</th>
<th>Life Time at L70 B10 and Tc 85°C (hrs)</th>
<th>Energy Label</th>
<th>Product Photo</th>
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<tbody>
<tr>
<td>RD0202-0488/ru-C1150v0+930</td>
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### Preliminary data

1. A dimming feature is available and performance can be enhanced by driver choice.

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**Powered by LED Driver**

- **Ra97**
- **Dimmable**
- **SDCM**
- **LES**
- **5mm**
LED MODULES

Powered by LED Driver

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Input Current (mA)</th>
<th>Typical Voltage at Tc 85°C (V DC)</th>
<th>Typical Wattage at Tc 85°C (W)</th>
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<th>Module Efficacy at Tc 85°C (lm/W)</th>
<th>Colour Temp. [CRI]</th>
<th>Life Time at L70 B10 and Tc 85°C (hrs)</th>
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MEGAMAN® Perfect White technology offers retailers a distinct advantage enhancing textiles by bringing whites to life while still offering superb efficacy and energy efficiency, compared to traditional light sources. It is ideally suited for retail lighting as well as other accent and display applications.

MEGAMAN® Standard 2800K LED Spectral Response Curve

MEGAMAN® Perfect White LED Spectral Response Curve

LED Constant Current Converter

1 A dimming feature is available and performance can be enhanced by driver choice.
LED MODULES

TECOH® RDx Gen 2

Powered by LED Driver

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MEGAMAN® Perfect White technology offers retailers a distinct advantage enhancing textiles by bringing whites to life while still offering superb efficacy and energy efficiency, compared to traditional light sources. It is ideally suited for retail lighting as well as other accent and display applications.

LED Constant Current Converter

1. A dimming feature is available and performance can be enhanced by driver choice.
LED MODULES

TECOH® PLx

The MEGAMAN® TECOH® PLx is a hand-shaped module that is a perfect alternative to fluorescent lights.

The finger or tile shaped TECOH® PLx modules are designed for use in flat luminaires with diffuse covers. PLx modules are ideal for general lighting, replacing conventional T5/T8 lights in office and commercial applications. Its excellent thermal performance leads to greater durability and long lifetimes.

The TECOH® PLx’s square shape offers smooth, unbroken light and allows easy design-in into existing luminaire shapes.

Product Features
• Modules using standard constant current driver of 350mA and 700mA
• High efficacy modules have industry highest A++ energy class
• Simple mechanical and electrical interconnection to offer different lumen packages
• 100 – 1% linear dimming capable when used with DC1-10V dimmer
• Self-cooling: No need for additional heat-sink
• Easy installation for standard panel designs

Please visit www.megamantecho.com for the latest information on the TECOH® family.
### LED MODULNE

**TECOH® PLx**

**Powered by LED Driver**

#### Finger Module

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Input Current (mA)</th>
<th>Nominal Voltage (V DC)</th>
<th>Wattage (W)</th>
<th>Luminous Flux at Tc 25°C (lm)</th>
<th>Luminous Efficacy at Tc 25°C (lm/W)</th>
<th>Luminous Flux at Tc 65°C (lm)</th>
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1. A dimming feature is available and performance can be enhanced by driver choice.
TECOH® THx constant current modules offer an excellent alternative to AR111, MR16 and PAR 16 halogen products

The built-in optics and heat-sink simplify the upgrade to a high efficient LED solution.

Building on the success of our patented Thermal Conductive Highway™ (TCH) technology, MEGAMAN® is proud to offer a new range of products with a groundbreaking hybrid reflector.

Offering enhanced beam control and efficacy, MEGAMAN®’s hybrid reflector combines the best features MEGAMAN®’s popular facetted reflector range with the total internal reflection of our optical reflector to provide a solution that performs even better than competing LED technologies.

Avoiding the ‘showerhead’ look of multiple lens solutions, the hybrid reflector is still able to take advantage of the precise beam control of the parabolic reflector approach, while minimising spill light, reducing glare and eliminating the ‘visual noise’ of multiple lens arrays.

MEGAMAN®’s hybrid reflector technology also combines superior performance, with beautiful aesthetics – barely distinguishable from the much-loved and familiar look of a halogen reflector, but with far higher efficiency.

**Product Features**
- Ideal for recessed and surface mounted spotlights
- A dimming feature is available and the performance can be enhanced by the driver choice
- Long lamp life (L70 B10 at Tc 85°C) of 50,000 hours

Please visit www.megamantecoh.com for the latest information on the TECOH® family.
## LED MODULES

### TECOH® THx

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<th>Product Code</th>
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**Powered by LED Driver**

**LED Constant Current Converter**

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- TH0405-36D/840: LD0425x1-C700
- TH0406-36D/828: LD0425x1-C700
- TH0406-36D/840: LD0425x1-C700
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- TH0520-15D/840: LD0509x1d-C350
- TH0520-24D/830: LD0509x1d-C350
- TH0520-24D/840: LD0509x1d-C350
- TH0520-45D/830: LD0509x1d-C350
- TH0520-45D/840: LD0509x1d-C350
- TH0520-60D/830: LD0509x1d-C350
- TH0520-60D/840: LD0509x1d-C350

1. A dimming feature is available and performance can be enhanced by driver choice.
LED LIGHT ENGINES

• TECOH® CFx
• TECOH® APx
• TECOH® THx
LED LIGHT ENGINES

TECOH® CFx

The world’s first 2000 lumen LED light engines designed in line with Zhaga Specification Book 2

The MEGAMAN® TECOH® CFx range of high performance twist-lock LED Light Engines (LLE) has an integrated driver for general lighting. The TECOH® CFx range is designed in line with Zhaga Specification Book 2. The TECOH® CFx is available in two options – the high-efficiency range and the extended life dimmable range.

The MEGAMAN® TECOH® CFx LLEs are intended for use in downlights for general lighting applications, such as hotel lobbies, restaurants, supermarkets and reception areas. With nominal lumen packages of 1200 and 2000 lumen, the TECOH® CFx LLEs are developed as energy efficient LED alternatives for conventional light sources such as the 50W halogen, and the 2 x 13W and 2 x 18W compact fluorescent lamps.

Product Features

- Perfect alternative to CFL non-integrated and halogen lamps in general lighting applications
- Designed in line with Zhaga Interface Specification Book 2, enabling interchangeability and easy integration into fixtures
- Twist-lock design with integrated driver that allows easy installation directly on mains input
- Offers different lumen packages in the same compact size, allowing for multifunctional fixture design and flexible stocking
- Smooth Lambertian output
- Future-proof design, enabling easy upgrading
- High efficiency range that offers system efficacies of up to 80lm/W
- The extended life dimmable range offers 100% to 10% linear dimming feature
- Robust design results in high reliability, L70 B10 of up to 35,000 hours
- Operating temperature: -30°C to +40°C
- For operation in Class I luminaires only

Please visit www.megamantecoh.com for the latest information on the TECOH® family.
## LED LIGHT ENGINES

**TECOH® CFx**

### 220-240V | Line Voltage

#### Extended Life Dimmable Range

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Voltage (W)</th>
<th>Luminous Flux (lm)</th>
<th>Luminous Flux in 120° Cone (lm)</th>
<th>Luminous Efficacy (mW)</th>
<th>Luminous Intensity (cd)</th>
<th>Colour Temp. [CRI]</th>
<th>Life Time at L70 B10 and Tc 85°C (hrs)</th>
<th>Diameter (mm)</th>
<th>Height (mm)</th>
<th>Dimmable</th>
<th>Energy Label</th>
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<tbody>
<tr>
<td>CF0212dPHJ65-2-828-230V</td>
<td>15</td>
<td>1200</td>
<td>960</td>
<td>80</td>
<td>650</td>
<td>2800K [Ra80]</td>
<td>35000</td>
<td>70</td>
<td>41</td>
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<td>CF0212dPHJ65-2-840-230V</td>
<td>15</td>
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<td>960</td>
<td>80</td>
<td>650</td>
<td>4000K [Ra80]</td>
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<td>CF0220dPHJ65-2-828-230V</td>
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<td>2000</td>
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<td>35000</td>
<td>70</td>
<td>41</td>
<td>100-10%</td>
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</table>

1. For use in Class I luminaires only.
2. Capable of linear dimming from 100% to 10% when working with conventional leading edge dimmers.

*Please visit www.megaman.cc/user-guide for a list of compatible dimmers.*
LED LIGHT ENGINES

TECOH® APx

The MEGAMAN® TECOH® APx light engine works directly on AC mains supply

TECOH® APx is a Planar LED light engine which works directly on AC mains supply. This driver-on-board module allows for easy installation and wiring.

TECOH® APx is an AC replacement for use behind a diffuser in a wide range of general lighting fixtures. Ideal for designers who are looking for a single substrate LED engine. The modules can easily be fitted into fixtures or onto heat-sinks without the need for additional drivers.

This driver-on-board light engine offers a solution in shallow luminaires that lack the space to integrate an external driver.

Product Features
- Single substrate LED Light Engine with driver integrated on-board for operation directly on mains supply
- Ideal for flat luminaires lacking space for driver integration
- Easy installation: No external driver needed
- Handy electrical connection to the mains through BJB connector
- Allows trouble free upgrade to LED
- Different fixture shapes and sizes can be addressed using single or multiple units
- Low flicker range offers reduced flicker below 30%

Please visit www.megamantecho.com for the latest information on the TECOH® family.
LED LIGHT ENGINES

TECOH® APx

220-240V | Line Voltage

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Wattage (W)</th>
<th>Luminous Flux at Tc 25°C (lm)</th>
<th>Luminous Efficacy at Tc 25°C (lm/W)</th>
<th>Luminous Flux at Tc 75°C (lm)</th>
<th>Luminous Efficacy at Tc 75°C (lm/W)</th>
<th>Colour Temp.[CRI]</th>
<th>Life Time at L70 B50 and Tc 75°C (hrs)</th>
<th>Dimension (mm)</th>
<th>Power Factor</th>
<th>Energy Label</th>
<th>Product Photo</th>
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<tr>
<td>AP10106/830-230V</td>
<td>9</td>
<td>680</td>
<td>76</td>
<td>630</td>
<td>70</td>
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<td>1100</td>
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<table>
<thead>
<tr>
<th>Product Code</th>
<th>Wattage (W)</th>
<th>Luminous Flux at Tc 25°C (lm)</th>
<th>Luminous Efficacy at Tc 25°C (lm/W)</th>
<th>Luminous Flux at Tc 75°C (lm)</th>
<th>Luminous Efficacy at Tc 75°C (lm/W)</th>
<th>Colour Temp.[CRI]</th>
<th>Life Time at L70 B50 and Tc 75°C (hrs)</th>
<th>Dimension (mm)</th>
<th>Power Factor</th>
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<table>
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<tr>
<th>Product Code</th>
<th>Wattage (W)</th>
<th>Luminous Flux at Tc 25°C (lm)</th>
<th>Luminous Efficacy at Tc 25°C (lm/W)</th>
<th>Luminous Flux at Tc 85°C (lm)</th>
<th>Luminous Efficacy at Tc 85°C (lm/W)</th>
<th>Colour Temp.[CRI]</th>
<th>Life Time at L70 B50 and Tc 75°C (hrs)</th>
<th>Dimension (mm)</th>
<th>Power Factor</th>
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<tr>
<td>AP3725v/830-230V</td>
<td>32</td>
<td>2500</td>
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<td>AP3725v/840-230V</td>
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<td>Ø160 x H7.3</td>
<td>&gt;0.95</td>
<td>A+</td>
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</table>
TECOH® THx

The MEGAMAN® TECOH® THx is an LED Light Engine (LLE) that offers an excellent alternative to MR16 and PAR16 halogen.

TECOH® THx LLE are ideal for integration in recessed and surface mounted spotlights. The unique electrical connection prevents the retrofit of high energy consuming halogen.

With a built-in driver, optics and heat sink the TECOH® THx is a simple way to upgrade to a highly efficient LED solution.

Offering enhanced beam control and efficacy, MEGAMAN®'s hybrid reflector combines the best features MEGAMAN®’s popular facetted reflector range with the total internal reflection of our optical reflector to provide a solution that performs even better than competing LED technologies.

Avoiding the ‘showerhead’ look of multiple lens solutions, the hybrid reflector is still able to take advantage of the precise beam control of the parabolic reflector approach, while minimising spill light, reducing glare and eliminating the ‘visual noise’ of multiple lens arrays.

MEGAMAN®’s hybrid reflector technology also combines superior performance, with beautiful aesthetics – barely distinguishable from the much-loved and familiar look of a halogen reflector, but with far higher efficiency.

**Product Features**
- Dim to warm technology included
- Smart Lighting over Bluetooth and Zigbee options added to complete the range
- First serviceable LED solution for fire rated downlights
- UK Building regulation for low energy lighting Part L compliant
- Unique electrical connection to prevent high energy consuming halogen being retrofitted
- Design with integrated driver, optics and heat-sink for easy upgrade to highly efficient LED solution
- High system efficiency up to 86m/W and A+ energy class
- Long life of 30,000 hours in most critical, fully enclosed, environments
- Energy saving of 80% when compared to halogen
- Dimmable versions available

Please visit www.megamantecoh.com for the latest information on the TECOH® family.
### LED LIGHT ENGINES

**TECOH® THx**

Capable of linear dimming from 100% to 10% or 100% to 5% when working with conventional leading edge dimmers.

Please visit www.megaman.cc/user-guide for a list of compatible dimmers.

Capable of linear dimming from 100% to 5% with integrated dimmer via **INGENIUM® BLU**.

Capable of linear dimming from 100% to 5% with integrated dimmer via **INGENIUM® ZB**.

#### 220-240V | Line Voltage

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Wattage (W)</th>
<th>Luminous Flux (lm)</th>
<th>Luminous Efficacy (lm/W)</th>
<th>Beam Angle (°)</th>
<th>Max. Luminous Intensity (cd)</th>
<th>Colour Temp. [CRI]</th>
<th>Rated Life at L70 B10 and Ta 20°C (hrs)</th>
<th>Diameter (mm)</th>
<th>Height (mm)</th>
<th>Dimmable</th>
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<th>Product Photo</th>
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<tr>
<td>TH0106-36D</td>
<td>8</td>
<td>600</td>
<td>75</td>
<td>420</td>
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<td>100-10%</td>
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<td>75</td>
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<td>A+</td>
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</table>

1. Capable of linear dimming from 100% to 10% or 100% to 5% when working with conventional leading edge dimmers.
2. Capable of linear dimming from 100% to 5% with integrated dimmer via **INGENIUM® BLU**.
3. Capable of linear dimming from 100% to 5% with integrated dimmer via **INGENIUM® ZB**.
Decoding the TECOH® Product Code

LED Modules – TECOH® FLx and TECOH® PLx

**FL 18 14 M / 930 - L57W0.8**

- **Category Name**
  - FL = TECOH® FLx
  - PL = TECOH® PLx
- **Colour Indication**
  - First digit for CRI indication: 8 = Ra80-89
  - 9 = Ra90-99
- **Luminous Flux Indication**
  - Maximum four digits for indication:
    - 04 = Nominal 400lm
    - 11 = Nominal 1100lm
- **Technology**
  - M = Multiple operation mode
  - R9 = RichColour
- **Dimension**
  - The second and third digits for length indication:
    - 04 = 40mm
    - 28 = 280mm
    - 57 = 570mm
- **Colour Indication**
  - First digit for CRI indication: 8 = Ra80-89
  - 9 = Ra90-99
- **Last two digits for colour temperature indication**
  - 30 = 3000K
  - 40 = 4000K
- **Sequence**
  - Two digits for indication:
    - From 01-99
- **Luminous Flux Indication**
  - Two digits for indication:
    - From 09-30

**LED Modules – TECOH® RDx Gen2 and TECOH® DFx**

**RD 01 21 M / 830**

- **Category Name**
  - RD = TECOH® RDx
  - DF = TECOH® DFx
- **Colour Indication**
  - First digit for CRI indication: 8 = Ra80-89
  - 9 = Ra90-99
- **Luminous Flux Indication**
  - Two digits for indication:
    - 09 = Nominal 900lm
    - 21 = Nominal 2100lm
    - 30 = Nominal 3000lm
- **Technology**
  - M = Multiple operation mode
  - p = Perfect White
  - R9 = RichColour
  - ru = UltraRichColour
  - dw = Dim to Warm
- **Dimension**
  - The second and third digits for length indication:
    - 04 = 40mm
    - 28 = 280mm
    - 57 = 570mm
  - First letter "L" stands for length
  - Last one to three digits for width indication:
    - 0.8 = 8mm
    - 2 = 20mm to 29mm
    - 23 = 230mm
  - The letter "W" stands for width
- **Colour Indication**
  - First digit for CRI indication: 8 = Ra80-89
  - 9 = Ra90-99
- **Last two digits for colour temperature indication**
  - 28 = 2800K
  - 30 = 3000K
  - 40 = 4000K
- **Sequence**
  - Four digits for indication:
    - From 0001-9999
- **Luminous Flux Indication**
  - Four digits for indication:
    - 0034 = 340lm
    - 0403 = 4030lm
    - 1100 = 11000lm

**LED Modules – TECOH® RDx Gen3**

**RD 0200 - 0400 / PW - C1050 v0 - 828**

- **Category Name**
  - RD = TECOH® RDx
  - DF = TECOH® DFx
- **Colour Indication**
  - First digit for CRI indication: 8 = Ra80-89
  - 9 = Ra90-99
- **Maximum Input Current**
  - C1050 = 1050mA
  - C0350 = 350mA
- **Technology / Product feature**
  - pW = Perfect White
  - R9 = RichColour
  - ru = UltraRichColour
  - dw = Dim to Warm
- **Version**
  - Four digits for indication:
    - From 0001-9999
  - Two digits for indication:
    - 09 = Nominal 900lm
    - 21 = Nominal 2100lm
    - 30 = Nominal 3000lm

*Highest lumen package at highest allowed input current*
LED Light Engine and Modules – TECOH® APx and TECOH® RLx

**AP 05 36 LF / 840 - 230V**

**Category Name**
- AP = TECOH® APx
- RL = TECOH® RLx

**Luminous Flux Indication**
- Two digits for indication:
  - 06 = Nominal 600lm
  - 12 = Nominal 1200lm

**Colour Indication**
- First digit for CRI indication:
  - 8 = Ra80-89
  - 9 = Ra90-99
- Last two digits for colour temperature indication:
  - 30 = 3000K
  - 40 = 4000K

**Technology**
- LF = Low Flicker
- v = Ultra wide lens

**Input Voltage**
- For light engine in line voltage
  - 230V = AC 220-240V

**Input Current**
- For module driven by constant current converter
  - 350mA = constant input current of 350mA
  - 500mA = constant input current of 500mA
  - 700mA = constant input current of 700mA

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LED Light Engine and Module – TECOH® THx

**TH 03 09 dB T2 -24D / 840 - 230V**

**Category Name**
- TH = TECOH® THx

**Beam Angle**
- First two digits for indication:
  - 24 = 24°
  - 36 = 36°
- Last letter ‘D’ stands for degree

**Technology**
- d = Phase-cut Dimming
- dB T2 = INGENIUM® BLU Gen 2 (using Bluetooth 4.1 technology)
- dB ZB = INGENIUM® ZB
- w = Dim to Warm

**Input Voltage**
- For light engine in line voltage
  - 230V = AC 220-240V

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LED Light Engine – TECOH® CFx

**CF 01 12 d / PHJ65d-2 - 828 - 230V**

**Category Name**
- CF = TECOH® CFx

**Luminous Flux Indication**
- Two digits for indication:
  - 06 = Nominal 600lm
  - 12 = Nominal 1200lm

**Colour Indication**
- First digit for CRI indication:
  - 8 = Ra80-89
  - 9 = Ra90-99
- Last two digits for colour temperature indication:
  - 28 = 2800K
  - 40 = 4000K

**Technology**
- d = Phase-cut Dimming