

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



- 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

R9 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

MEGAMAN® products are manufactured and certified to ISO 9001:2008, ISO 14001:2004, ISO 14064-1:2006, OHSAS 18001:2007, SA 8000:2008 and QC 080000:2012.

## 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.



CNAS



NVLAP



ISO 9001



ISO 14001



ISO14064-1



OHSAS 18001



SA 8000



QC080000



# 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® MHx Gen2 (socketable for remote electronic driver)**

The TECOH® MHx modules are developed as an energy efficient LED alternative for Ceramic Metal Halide lamps.

The creation of a comfortable, yet attractive environment is key to the success of any retail scheme. MEGAMAN® understands that highly efficient, eco-friendly solutions are required and has as a result, created a unique LED solution – the TECOH® MHx product range. TECOH® MHx is an LED 'capsule' with dimensions similar to G12/GU6.5 based ceramic metal halide lamps. The current Gen2 product range comprises of a 24W/17W LED capsule as a viable alternative to a 39W/20W ceramic metal halide product.

The patented thermally conductive base and head design used within TECOH® MHx offer superb heat dissipation, resulting in excellent lighting performance and lumen maintenance. The two highly efficient, axial positioned LED arrays also allow

fixture manufacturers to use reflectors to effectively control the beam and create powerful accent lighting.

With its unique design TECOH® MHx is the ideal lighting solution for a variety of shop lighting applications.

## **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 1690 up to 8310lm at Ta = 25°C with efficacies up to 177lm/W, all in the same compact size of 50mm diameter and 6.2mm height.

These high performance compact round disc modules are ideal for use in spotlight fixtures, track-, down- and floodlighting. For 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 alternatives for conventional fluorescent tubes.

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®

## the New Technology



### **TECOH® DFX (socketable for remote electronic driver)**

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.







# LED MODULES

- TECOH® FLx
- TECOH® PLx
- TECOH® DFx
- TECOH® THx
- TECOH® RLx
- TECOH® MHx
- 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 (L70 B10) 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  $\leq 3$  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



# LED MODULES

## TECOH® FLx



Powered by LED Driver

Dimmable\*

SDCM  
≤3

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

Product Code	Input Current (mA)	Nominal Voltage (V DC)	Wattage (W)	Luminous Flux at Ta 25°C (lm)	Luminous Efficacy at Ta 25°C (lm/W)	Luminous Flux at Tc 85°C (lm)	Luminous Efficacy at Tc 85°C (lm/W)	Colour Temp. [CRI]	Life Time at L70 B10 and Tc 85°C (hrs)	Length (mm)	Width* (mm)	Height (mm)	Energy Label	No. of LED
FL3506/830-L28W2-700mA	700	5.5	3.87	630	162	610	157	3000K [Ra80]	50000	280	20	6.7	A++	10
FL3506/840-L28W2-700mA	700	5.5	3.87	660	170	640	165	4000K [Ra80]	50000	280	20	6.7	A++	10
FL3413/830-L56W2-700mA	700	11	7.75	1255	162	1220	157	3000K [Ra80]	50000	560	20	6.7	A++	20
FL3413/840-L56W2-700mA	700	11	7.75	1320	170	1280	165	4000K [Ra80]	50000	560	20	6.7	A++	20
FL3513/830-L28W2-700mA	700	11	7.75	1255	162	1220	157	3000K [Ra80]	50000	280	20	6.7	A++	20
FL3513/840-L28W2-700mA	700	11	7.75	1320	170	1280	165	4000K [Ra80]	50000	280	20	6.7	A++	20
FL3426/830-L56W2-700mA	700	22	15.5	2510	162	2440	157	3000K [Ra80]	50000	560	20	6.7	A++	40
FL3426/840-L56W2-700mA	700	22	15.5	2635	170	2560	165	4000K [Ra80]	50000	560	20	6.7	A++	40

### High Efficacy Range - in 20mm width

Product Code	Input Current (mA)	Nominal Voltage (V DC)	Wattage (W)	Luminous Flux at Ta 25°C (lm)	Luminous Efficacy at Ta 25°C (lm/W)	Luminous Flux at Tc 85°C (lm)	Luminous Efficacy at Tc 85°C (lm/W)	Colour Temp. [CRI]	Life Time at L70 B10 and Tc 85°C (hrs)	Length (mm)	Width* (mm)	Height (mm)	Energy Label	No. of LED
FL0305v2/830-L28W2-700mA	700	6	4	513	128	500	125	3000K [Ra80]	50000	280	20	6.7	A++	10
FL0305v2/840-L28W2-700mA	700	6	4	563	141	525	138	4000K [Ra80]	50000	280	20	6.7	A++	10
FL0411/830-L56W2-700mA	700	12	8	1025	128	1000	125	3000K [Ra80]	50000	560	20	6.7	A++	20
FL0411/840-L56W2-700mA	700	12	8	1125	141	1100	138	4000K [Ra80]	50000	560	20	6.7	A++	20
FL0311/830-L28W2-700mA	700	12	8	1025	128	1000	125	3000K [Ra80]	50000	280	20	6.7	A++	20
FL0311/840-L28W2-700mA	700	12	8	1125	141	1100	138	4000K [Ra80]	50000	280	20	6.7	A++	20
FL0422/830-L56W2-700mA	700	24	16	2050	128	2000	125	3000K [Ra80]	50000	560	20	6.7	A+	40
FL0422/840-L56W2-700mA	700	24	16	2250	141	2200	138	4000K [Ra80]	50000	560	20	6.7	A++	40

\* A dimming feature is available and driver choice can enhance performance.  
\* Other width feasible upon request.



**TECOH®  
FLx**



Powered by LED Driver

Dimmable<sup>#</sup>

SDCM  
≤3

Standard Range in 20mm width														
Product Code	Input Current (mA)	Nominal Voltage (V DC)	Wattage (W)	Luminous Flux at Ta 25°C (lm)	Luminous Efficacy at Ta 25°C (lm/W)	Luminous Flux at Tc 85°C (lm)	Luminous Efficacy at Tc 85°C (lm/W)	Colour Temp. [CRI]	Life Time at L70 B10 and Tc 85°C (hrs)	Length (mm)	Width* (mm)	Height (mm)	Energy Label	No. of LED
FL0305v3/830-L28W2-700mA	700	6.25	4.4	475	109	450	103	3000K [Ra80]	50000	280	20	6.7	A++	10
FL0305v3/840-L28W2-700mA	700	6.25	4.4	500	115	475	109	4000K [Ra80]	50000	280	20	6.7	A++	10
FL0410v2/830-L56W2-700mA	700	12.5	8.7	950	109	900	103	3000K [Ra80]	50000	560	20	6.7	A+	20
FL0410v2/840-L56W2-700mA	700	12.5	8.7	1000	115	950	109	4000K [Ra80]	50000	560	20	6.7	A+	20
FL0310v2/830-L28W2-700mA	700	12.5	8.7	950	109	900	103	3000K [Ra80]	50000	280	20	6.7	A+	20
FL0310v2/840-L28W2-700mA	700	12.5	8.7	1000	115	950	109	4000K [Ra80]	50000	280	20	6.7	A+	20
FL0420/830-L56W2-700mA	700	25	17.4	1900	109	1800	103	3000K [Ra80]	50000	560	20	6.7	A+	40
FL0420/840-L56W2-700mA	700	25	17.4	2000	115	1900	109	4000K [Ra80]	50000	560	20	6.7	A+	40

<sup>#</sup> A dimming feature is available and driver choice can enhance performance.

\* Other width feasible upon request.

Powered by LED Driver

Dimmable\*

SDCM  
≤3

## High Efficacy RichColour Range in 20mm width

Product Code	Input Current (mA)	Nominal Voltage (V DC)	Wattage (W)	Luminous Flux at Ta 25°C (lm)	Luminous Efficacy at Ta 25°C (lm/W)	Luminous Flux at Tc 85°C (lm)	Luminous Efficacy at Tc 85°C (lm/W)	Colour Temp. [CRI]	Life Time at L70 B10 and Tc 85°C (hrs)	Length (mm)	Width* (mm)	Height (mm)	Energy Label	No. of LED
FL0305v2R9/930-L28W2-700mA	700	6	4	450	113	440	110	3000K [>Ra90]	50000	280	20	6.7	A++	10
FL0305v2R9/940-L28W2-700mA	700	6	4	495	124	485	121	4000K [>Ra90]	50000	280	20	6.7	A++	10
FL0411R9/930-L56W2-700mA	700	12	8	900	113	880	110	3000K [>Ra90]	50000	560	20	6.7	A++	20
FL0411R9/940-L56W2-700mA	700	12	8	990	124	970	121	4000K [>Ra90]	50000	560	20	6.7	A++	20
FL0311R9/930-L28W2-700mA	700	12	8	900	113	880	110	3000K [>Ra90]	50000	280	20	6.7	A++	20
FL0311R9/940-L28W2-700mA	700	12	8	990	124	970	121	4000K [>Ra90]	50000	280	20	6.7	A++	20
FL0422R9/930-L56W2-700mA	700	24	16	1800	113	1760	110	3000K [>Ra90]	50000	560	20	6.7	A+	40
FL0422R9/940-L56W2-700mA	700	24	16	1980	124	1940	121	4000K [>Ra90]	50000	560	20	6.7	A++	40

## RichColour Range in 20mm width

Product Code	Input Current (mA)	Nominal Voltage (V DC)	Wattage (W)	Luminous Flux at Ta 25°C (lm)	Luminous Efficacy at Ta 25°C (lm/W)	Luminous Flux at Tc 85°C (lm)	Luminous Efficacy at Tc 85°C (lm/W)	Colour Temp. [CRI]	Life Time at L70 B10 and Tc 85°C (hrs)	Length (mm)	Width* (mm)	Height (mm)	Energy Label	No. of LED
FL0304R9/930-L28W2-700mA	700	6.3	4.4	440	101	420	96	3000K [Ra90]	50000	280	20	6.7	A++	10
FL0304R9/940-L28W2-700mA	700	6.3	4.4	465	106	440	101	4000K [Ra90]	50000	280	20	6.7	A++	10
FL0409R9/930-L56W2-700mA	700	12.5	8.8	880	101	840	96	3000K [Ra90]	50000	560	20	6.7	A+	20
FL0409R9/940-L56W2-700mA	700	12.5	8.8	925	105	880	101	4000K [Ra90]	50000	560	20	6.7	A+	20
FL0309R9/930-L28W2-700mA	700	12.5	8.8	880	101	840	96	3000K [Ra90]	50000	280	20	6.7	A+	20
FL0309R9/940-L28W2-700mA	700	12.5	8.8	925	105	880	101	4000K [Ra90]	50000	280	20	6.7	A+	20
FL0418R9/930-L56W2-700mA	700	25	17.5	1760	101	1675	96	3000K [Ra90]	50000	560	20	6.7	A+	40
FL0418R9/940-L56W2-700mA	700	25	17.5	1850	106	1760	101	4000K [Ra90]	50000	560	20	6.7	A+	40

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

\* Other width feasible upon request.

**TECOH®  
FLx**



Powered by LED Driver

Dimmable\*

SDCM  
≤3

#### High Output Range in 40mm width

Product Code	Input Current (mA)	Nominal Voltage (V DC)	Wattage (W)	Luminous Flux at Ta 25°C (lm)	Luminous Efficacy at Ta 25°C (lm/W)	Luminous Flux at Tc 85°C (lm)	Luminous Efficacy at Tc 85°C (lm/W)	Colour Temp. [CRI]	Life Time at L70 B10 and Tc 85°C (hrs)	Length (mm)	Width* (mm)	Height (mm)	Energy Label	No. of LED
FL0922/830-L28W4-700mA	700	24	16	2050	128	2000	125	3000K [Ra80]	50000	280	40	6.7	A++	20
FL0922/840-L28W4-700mA	700	24	16	2250	141	2200	138	4000K [Ra80]	50000	280	40	6.7	A++	20
FL1044/830-L56W4-700mA	700	48	32	4100	128	4000	125	3000K [Ra80]	50000	560	40	6.7	A++	80
FL1044/840-L56W4-700mA	700	48	32	4500	141	4400	138	4000K [Ra80]	50000	560	40	6.7	A++	80

#### Tunable White Range in 280mm/560mm length and 40mm width

Product Code	Input Current (mA)	Nominal Voltage for 1 Channel Only (V DC)	Nominal Voltage for 2 Channels (V DC)	Wattage for 1 Channel Only (W)	Wattage for 2 Channels (W)	Luminous Flux at Ta 25°C (lm)	Luminous Efficacy at Ta 25°C (lm/W)	Luminous Flux at Tc 85°C (lm)	Luminous Efficacy at Tc 85°C (lm/W)	Colour Temp. [CRI]	Life Time at L70 B10 and Tc 85°C (hrs)	Length (mm)	Width (mm)	Height (mm)	Energy Label	No. of LED
FL0722/828-L28W4-700mA	700	12	24	8	16	1125	141	1100	138	2800K [Ra80]	50000	280	40	6.7	A++	20
FL0722/865-L28W4-700mA	700	12	24	8	16	1125	141	1100	138	6500K [Ra80]	50000	280	40	6.7	A++	20
FL0722/828-865-L28W4-700mA	700	12	24	8	16	2250	141	2200	138	4000K [Ra80] <sup>1</sup>	50000	280	40	6.7	A++	40
FL0844/828-L56W4-700mA	700	24	48	16	32	2250	141	2200	138	2800K [Ra80]	50000	560	40	6.7	A++	40
FL0844/865-L56W4-700mA	700	24	48	16	32	2250	141	2200	138	6500K [Ra80]	50000	560	40	6.7	A++	40
FL0844/828-865-L56W4-700mA	700	24	48	16	32	4500	141	4400	138	4000K [Ra80] <sup>2</sup>	50000	560	40	6.7	A++	80

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

\* Other width feasible upon request.

<sup>1</sup> CCT range 2800K to 6500K is at min. 1100lm. Max luminous flux at full power is 2200lm and 4000K listed.

<sup>2</sup> CCT range 2800K to 6500K is at min. 2200lm. Max luminous flux at full power is 4400lm and 4000K listed.





Powered by LED Driver

Dimmable<sup>#</sup>

SDCM  
≤3

Multiple Operation Range in 8mm width for sidelite applications														
Product Code	Input Current (mA)	Nominal Voltage (V DC)	Wattage (W)	Luminous Flux at Ta 25°C (lm)	Luminous Efficacy at Ta 25°C (lm/W)	Luminous Flux at Tc 65°C (lm)	Luminous Efficacy at Tc 65°C (lm/W)	Colour Temp. [CRI]	Life Time at L70 B10 and Tc 85°C (hrs)	Length (mm)	Width (mm)	Height (mm)	Energy Label	No. of LED
FL1814M/830-L57W0.8-350mA-HE	350	30	10	1450	145	1350	135	3000K [Ra80]	50000	570	8	2.4	A++	70
FL1814M/830-L57W0.8-500mA-HO	500	30	14.5	1900	131	1800	124	3000K [Ra80]	50000	570	8	2.4	A++	70
FL1814M/840-L57W0.8-350mA-HE	350	30	10	1500	150	1400	140	4000K [Ra80]	50000	570	8	2.4	A++	70
FL1814M/840-L57W0.8-500mA-HO	500	30	14.5	1950	134	1850	128	4000K [Ra80]	50000	570	8	2.4	A++	70
FL1814M/930-L57W0.8-350mA-HE	350	30	10	1150	115	1100	110	3000K [Ra90]	50000	570	8	2.4	A+	70
FL1814M/930-L57W0.8-500mA-HO	500	30	14.5	1600	110	1550	107	3000K [Ra90]	50000	570	8	2.4	A+	70

LED Constant Current Converter



LD0212x1v-C350

- FL1814M/830-L57W0.8-350mA-HE
- FL1814M/840-L57W0.8-350mA-HE
- FL1814M/930-L57W0.8-350mA-HE

LD0219x1v-C500

- FL1814M/830-L57W0.8-500mA-HO
- FL1814M/840-L57W0.8-500mA-HO
- FL1814M/930-L57W0.8-500mA-HO

<sup>#</sup> 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

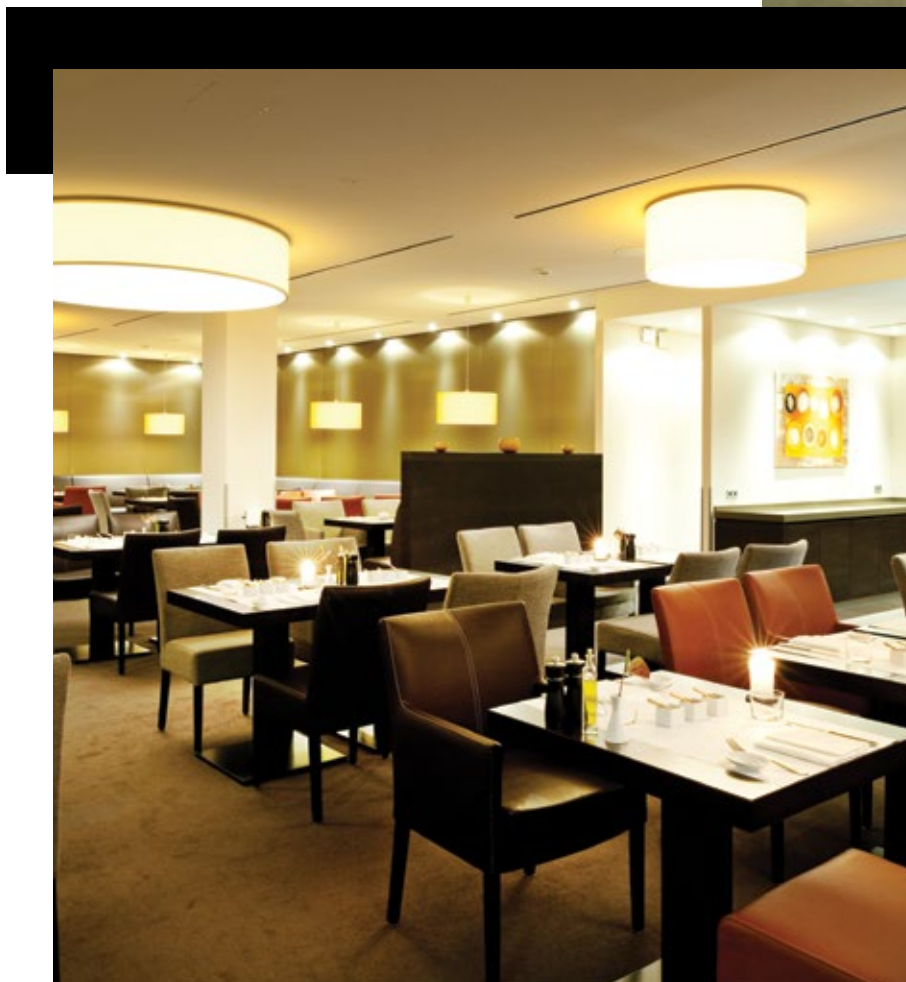
The TECOH® DFx is a rectangular-shaped LED module offering a high quality white light. To be used with diffusers as an alternative to traditional compact and circular fluorescent lighting, its lambertian distribution makes the TECOH® DFx perfect for ambient lighting applications.

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



# LED MODULES

## TECOH® DFx



Powered by LED Driver

Dimmable\*

SDCM  
≤4

Product Code	Input Current (mA)	Nominal Voltage (V DC)	Wattage (W)	Luminous Flux at Ta 25°C (lm)	Luminous Efficacy at Ta 25°C (lm/W)	Luminous Flux at Tc 65°C (lm)	Luminous Efficacy at Tc 65°C (lm/W)	Colour Temp. [CRI]	Life Time at L70 B10 and Tc 65°C (hrs)	Length (mm)	Width (mm)	Height (mm)	Energy Label
DF0103.5M/830-L5W0.7-350mA-HE	350	6.2	2	270	128	255	121	3000 [Ra82]	50000	50	7	1.55	A++
DF0103.5M/840-L5W0.7-350mA-HE	350	6.2	2	290	138	270	129	4000 [Ra82]	50000	50	7	1.55	A++
DF0103.5M/830-L5W0.7-500mA-HO	500	6.2	3	340	113	320	107	3000 [Ra82]	50000	50	7	1.55	A++
DF0103.5M/840-L5W0.7-500mA-HO	500	6.2	3	365	122	340	113	4000 [Ra82]	50000	50	7	1.55	A++

\* 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

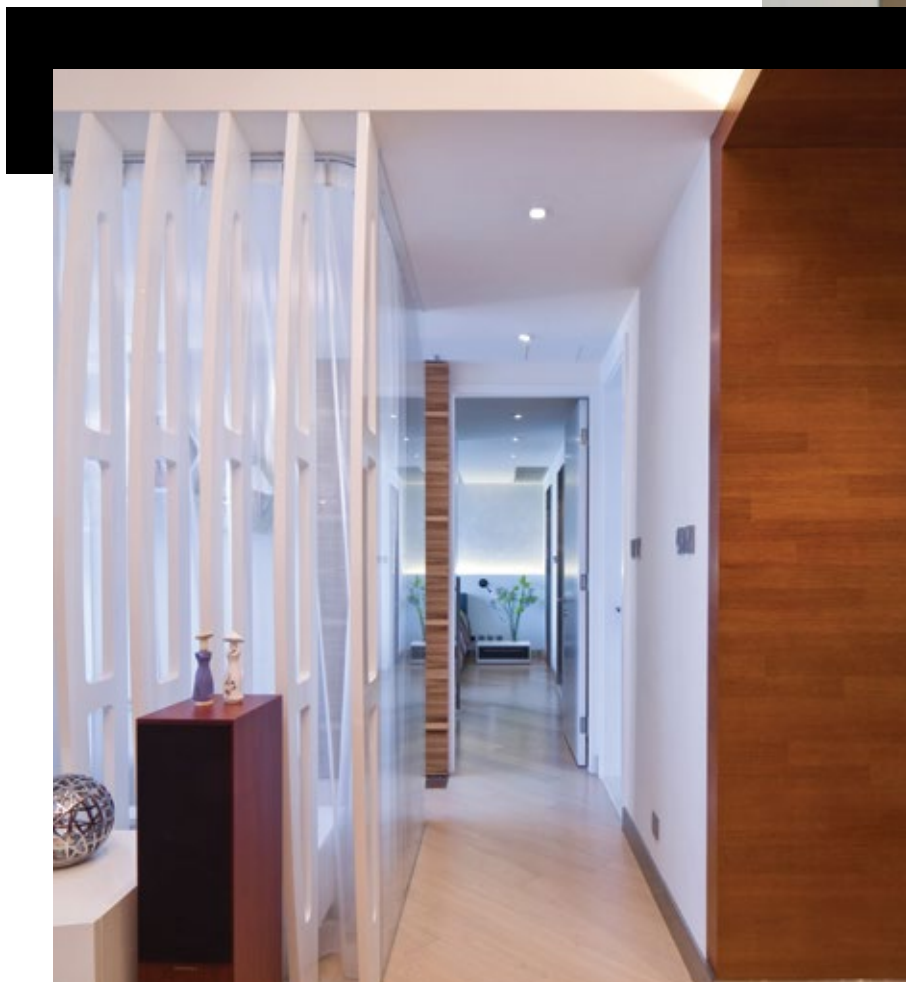
The TECOH® RLx are designed as energy efficient LED alternatives for conventional light sources such as halogen and compact fluorescent products in new luminaires.

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.

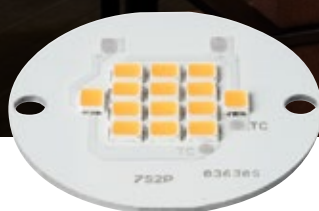
### Product Features

- 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  $\leq 4$  SDCM
- Operating temperature : -30°C to +40°C
- Dimmable



# LED MODULES

## TECOH® RLx



1 NEW



2 NEW

Powered by LED Driver

Dimmable\*

SDCM  
≤4

Product Code	Input Current (mA)	Nominal Voltage (V DC)	Wattage (W)	Luminous Flux at Ta 25°C (lm)	Luminous Efficacy at Ta 25°C (lm/W)	Luminous Flux at Tc 85°C (lm)	Luminous Efficacy at Tc 85°C (lm/W)	Colour Temp. [CRI]	Life Time at L70 B10 and Tc 75°C (hrs)	Diameter (mm)	Height (mm)	Energy Label	Product Photo
RL0107/830-350mA	350	22	8	800	100	720	90	3000K [Ra82]	30000	34	2.4	A+	1
RL0216/830-700mA	700	22	15	1750	117	1600	107	3000K [Ra82]	30000	34	2.4	A+	2

\* Preliminary data

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

## LED MODULES

# TECOH® RDx Gen2

TECOH® RDx offers excellent lumen packages of up to 8310lm#

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 2nd generation 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 1690 up to 8310 lumen# with just 4 models and 2 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
- Packages from 1690 up to 8310 lumens# with identical contour of 50mm diameter and 6.2mm height for multifunctional fixture design
- Small LES (17-19mm) for excellent beam control
- Modules (M type) available for flexible operation in high efficiency, normal and high output modes by simply changing the input current
- 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  $\leq 3$  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](http://www.megamantecoh.com) for the latest information on the TECOH® family.



# LED MODULES

## TECOH® RDx Gen2



Powered by LED Driver

Dimmable\*

SDCM  
≤3



Product Code	Input Current (mA)	Typical Voltage at Tc 85°C (V DC)	Typical Wattage at Tc 85°C (W)	Luminous Flux at Ta 25°C (lm)	Module Efficacy at Ta 25°C (lm/W)	Luminous Flux at Tc 85°C (lm)	Module Efficacy at Tc 85°C (lm/W)	Colour Temp. [CRI]	Life Time at L70 B10 and Tc 85°C (hrs)	Energy Label
RD0121M/830-350mA-HE	350	34.6	12.1	1690	140	1400	116	3000 [Ra82]	50000	A++
RD0121M/830-500mA-NE	500	35.4	17.7	2290	129	1900	107	3000 [Ra82]	50000	A+
RD0121M/830-700mA-HO	700	36.2	25.3	2890	114	2400	95	3000 [Ra82]	50000	A+
RD0121M/840-350mA-HE	350	34.6	12.1	1870	155	1550	128	4000 [Ra82]	50000	A++
RD0121M/840-500mA-NE	500	35.4	17.7	2530	143	2100	119	4000 [Ra82]	50000	A++
RD0121M/840-700mA-HO	700	36.2	25.3	3200	126	2650	105	4000 [Ra82]	50000	A+
RD0231M/830-500mA-HE	500	34.6	17.3	2530	146	2100	121	3000 [Ra82]	50000	A++
RD0231M/830-700mA-NE	700	34.8	24.4	3370	138	2800	115	3000 [Ra82]	50000	A++
RD0231M/830-1050mA-HO	1050	35.2	37	4400	119	3650	99	3000 [Ra82]	50000	A+
RD0231M/840-500mA-HE	500	34.6	17.3	2770	160	2300	133	4000 [Ra82]	50000	A++
RD0231M/840-700mA-NE	700	34.8	24.4	3740	153	3100	127	4000 [Ra82]	50000	A++
RD0231M/840-1050mA-HO	1050	35.2	37	4820	130	4000	108	4000 [Ra82]	50000	A+

### LED Constant Current Converter



#### LD0212x1v-C350

RD0121M/830-350mA-HE  
RD0121M/840-350mA-HE

#### LD0219x1v-C500

RD0121M/830-500mA-NE  
RD0121M/840-500mA-NE  
RD0231M/830-500mA-HE  
RD0231M/840-500mA-HE

#### LD0225x1v-C700

RD0121M/830-700mA-HO  
RD0121M/840-700mA-HO  
RD0231M/830-700mA-NE  
RD0231M/840-700mA-NE



#### LD0445x1-C1050

RD0231M/830-1050mA-HO  
RD0231M/840-1050mA-HO

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



**TECOH®**  
**RDx**

Powered by LED Driver

Dimmable\*

SDCM  
≤3



Product Code	Input Current (mA)	Typical Voltage at Tc 85°C (V DC)	Typical Wattage at Tc 85°C (W)	Luminous Flux at Ta 25°C (lm)	Module Efficacy at Ta 25°C (lm/W)	Luminous Flux at Tc 85°C (lm)	Module Efficacy at Tc 85°C (lm/W)	Colour Temp. [CRI]	Life Time at L70 B10 and Tc 85°C (hrs)	Energy Label
RD0343M/830-700mA-HE	700	33.2	23.2	3675	158	3050	131	3000 [Ra82]	50000	A++
RD0343M/830-1050mA-NE	1050	33.6	35.3	4940	140	4100	116	3000 [Ra82]	50000	A++
RD0343M/830-1400mA-HO	1400	34	47.6	5900	124	4900	103	3000 [Ra82]	50000	A+
RD0343M/840-700mA-HE	700	33.2	23.2	4095	177	3400	147	4000 [Ra82]	50000	A++
RD0343M/840-1050mA-NE	1050	33.6	35.3	5420	154	4500	127	4000 [Ra82]	50000	A++
RD0343M/840-1400mA-HO	1400	34	47.6	6500	137	5400	113	4000 [Ra82]	50000	A++
RD0555M/830-1050mA-NE	1050	42	44.1	6020	137	5000	113	3000 [Ra82]	50000	A++
RD0555M/830-1400mA-HO	1400	44.1	61.7	7590	123	6300	102	3000 [Ra82]	50000	A+
RD0555M/840-1050mA-NE	1050	42	44.1	6620	150	5500	125	4000 [Ra82]	50000	A++
RD0555M/840-1400mA-HO	1400	44.1	61.7	8310	135	6900	112	4000 [Ra82]	50000	A++

### LED Constant Current Converter



**LD0425x1-C700**

RD0343M/830-700mA-HE  
RD0343M/840-700mA-HE

**LD0445x1-C1050**

RD0555M/830-1050mA-NE  
RD0555M/840-1050mA-NE

**LD0436x1-C1050**

RD0343M/830-1050mA-NE  
RD0343M/840-1050mA-NE

**LD0448x1-C1400**

RD0343M/830-1400mA-HO  
RD0343M/840-1400mA-HO

\* 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 hand-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 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





## LED MODULES

# TECOH® PLx



Powered by LED Driver

Dimmable

SDCM  
≤3

Product Code	Input Current (mA)	Nominal Voltage (V DC)	Wattage (W)	Luminous Flux at Ta 25°C (lm)	Luminous Efficacy at Ta 25°C (lm/W)	Luminous Flux at Tc 65°C (lm)	Luminous Efficacy at Tc 65°C (lm/W)	Colour Temp. [CRI]	Life Time at L70 B10 and Tc 85°C (hrs)	Length (mm)	Width (mm)	Height (mm)	Energy Label	No. of LED
PL0111/830-L25W23-700mA	700	12	8	1000	125	900	113	3000K [Ra80]	50000	259	236	6.7	A++	64
PL0111/840-L25W23-700mA	700	12	8	1120	140	1000	125	4000K [Ra80]	50000	259	236	6.7	A++	64

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

## LED MODULES

# TECOH® THx

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 faceted 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



# LED MODULES

## TECOH® THx



Powered by LED Driver

Dimmable<sup>#</sup>

SDCM  
≤5

Product Code	Input Current (mA)	Nominal Voltage (V DC)	Wattage (W)	Luminous Flux (lm)	Luminous Efficacy (lm/W)	Luminous Flux in 90° Cone (lm)	Beam Angle (°)	Max. Luminous Intensity (cd)	Colour Temp. [CRI]	Life Time at L70 B10 and Tc 85°C (hrs)	Diameter (mm)	Height (mm)	Dimmable	Energy Label	Product Photo
TH0405-36D/828-350mA	350	18	6.5	500	77	350	36	1200	2800K [Ra82]	50000	50	30	Dimmable	A	1
TH0405-36D/840-350mA	350	18	6.5	500	77	350	36	1200	4000K [Ra85]	50000	50	30	Dimmable	A	1
TH0406-36D/828-350mA	350	18	6.5	630	97	500	36	1500	2800K [Ra82]	50000	50	30	Dimmable	A+	1
TH0406-36D/840-350mA	350	18	6.5	630	97	500	36	1500	4000K [Ra85]	50000	50	30	Dimmable	A+	1
TH0520-15D/830-700mA	700	35	25	2000	80	1840	15	17800	3000K [Ra80]	50000	111	92	Dimmable	A	2
TH0520-15D/840-700mA	700	35	25	2000	80	1840	15	17800	4000K [Ra80]	50000	111	92	Dimmable	A	2
TH0520-24D/830-700mA	700	35	25	2000	80	1840	24	10200	3000K [Ra80]	50000	111	92	Dimmable	A	2
TH0520-24D/840-700mA	700	35	25	2000	80	1840	24	10200	4000K [Ra80]	50000	111	92	Dimmable	A	2
TH0520-45D/830-700mA	700	35	25	2000	80	1840	45	4450	3000K [Ra80]	50000	111	92	Dimmable	A	2
TH0520-45D/840-700mA	700	35	25	2000	80	1840	45	4450	4000K [Ra80]	50000	111	92	Dimmable	A	2
TH0532-24D/830-1050mA	1050	35	35	3200	91	2940	24	16300	3000K [Ra80]	50000	111	92	Dimmable	A+	2
TH0532-24D/840-1050mA	1050	35	35	3200	91	2940	24	16300	4000K [Ra80]	50000	111	92	Dimmable	A+	2
TH0532-45D/830-1050mA	1050	35	35	3200	91	2940	45	7100	3000K [Ra80]	50000	111	92	Dimmable	A+	2
TH0532-45D/840-1050mA	1050	35	35	3200	91	2940	45	7100	4000K [Ra80]	50000	111	92	Dimmable	A+	2
TH0532-60D/830-1050mA	1050	35	35	3200	91	2940	60	400	3000K [Ra80]	50000	111	92	Dimmable	A+	2
TH0532-60D/840-1050mA	1050	35	35	3200	91	2940	60	400	4000K [Ra80]	50000	111	92	Dimmable	A+	2

### LED Constant Current Converter



LD0425x1-C700

TH0520-15D/830-700mA  
TH0520-15D/840-700mA  
TH0520-24D/830-700mA  
TH0520-24D/840-700mA  
TH0520-45D/830-700mA  
TH0520-45D/840-700mA

LD0436x1-C1050

TH0532-24D/830-1050mA  
TH0532-24D/840-1050mA  
TH0532-45D/830-1050mA  
TH0532-45D/840-1050mA  
TH0532-60D/830-1050mA  
TH0532-60D/840-1050mA



LD0509x1d-C350

TH0405-36D/828-350mA  
TH0405-36D/840-350mA  
TH0406-36D/828-350mA  
TH0406-36D/840-350mA

\* Preliminary data

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

## LED MODULES

# TECOH® MHx Gen2

Superb lighting performance for a true alternative to 20W and 35W metal halide lamps

The TECOH® MHx is an LED “capsule” with dimensions similar to G12/GU6.5-based ceramic metal halide lamps. With the introduction of the TECOH® MHx Gen2, the product efficacy has been upgraded to offer energy-savings compared to ceramic metal halide alternatives. The current product range comprises a 24W/17W LED capsule as a viable alternative to a 35W/20W ceramic metal halide product.

With its unique design, the TECOH® MHx is the ideal lighting solution for a variety of shop lighting applications, such as boutiques, food outlets and shopping malls. Due to the absence of UV radiation and negligible IR radiation, the TECOH® MHx also successfully meets all the requirements for museum and gallery lighting.

### Product Features

- With minimal design modifications required, the TECOH® MHx can be used in many existing fixtures (the light centre from the base is the same height as in G12 or GU6.5 lamps)
- Instant start and hot re-strike capable
- Available in viable alternatives to Ceramic Metal Halide 20W, 35W and 50W
- Eliminates the risk of potential exposure to UV and radioactive Kr85 in case of lamp breakage
- Capable of linear dimming from 100% to 1% when used with a DC1-10V dimming driver and DC1-10V dimmer
- Future-proof design, enabling, as required, easy upgrading of the TECOH® MHx
- Long lamp life (L70 B10) of up to 50,000 hours, which is three times longer than metal halides lamps
- High colour rendering of up to Ra85; a RichColour option offers an outstanding CRI of Ra94
- Colour consistency is  $\leq 3$  SDCM
- Operating temperature: -30°C to +40°C





# LED MODULES

## TECOH® MHx Gen2



1



2



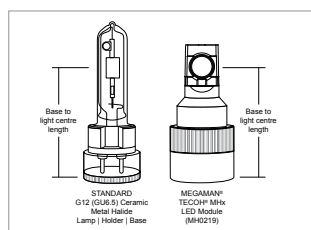
Powered by LED Driver

100 – 1%  
Dimmable\*

SDCM  
≤3

Standard Range													
Product Code	Input Current (mA)	Nominal Voltage (V DC)	Wattage (W)	Luminous Flux at Ta 25°C (lm)	Luminous Efficacy at Ta 25°C (lm/W)	Luminous Flux at Tc 75°C (lm)	Luminous Efficacy at Tc 75°C (lm/W)	Colour Temp. [CRI]	Life Time at L70 B50 and Tc 75°C (hrs)	Diameter (mm)	Height (mm)	Energy Label	Product Photo
MH0219/830-500mA	500	34	17	2000	118	1700	100	3000K [Ra82]	50000	25	50	A+	1
MH0219/840-500mA	500	34	17	2200	129	1900	112	4000K [Ra85]	50000	25	50	A+	1
MH0130/830-700mA	700	36	24	3200	133	2700	113	3000K [Ra82]	50000	42	62	A+	2
MH0130/840-700mA	700	36	24	3500	146	3000	125	4000K [Ra85]	50000	42	62	A+	2

RichColour Range													
Product Code	Input Current (mA)	Nominal Voltage (V DC)	Wattage (W)	Luminous Flux at Ta 25°C (lm)	Luminous Efficacy at Ta 25°C (lm/W)	Luminous Flux at Tc 75°C (lm)	Luminous Efficacy at Tc 75°C (lm/W)	Colour Temp. [CRI]	Life Time at L70 B50 and Tc 75°C (hrs)	Diameter (mm)	Height (mm)	Energy Label	Product Photo
MH0130R9/930-700mA	700	36	24	2700	113	2300	96	3000K [Ra94]	50000	42	62	A+	2
MH0130R9/940-700mA	700	36	24	2900	121	2500	104	4000K [Ra94]	50000	42	62	A+	2



### LED Constant Current Converter



**LD0217x1v-C500**  
MH0219/830-500mA  
MH0219/840-500mA



**LD0424x1v-C700**  
MH0130/830-700mA  
MH0130/840-700mA  
MH0130R9/930-700mA  
MH0130R9/940-700mA

### Accessory: A lamp holder is needed to hold the LED module



LB2602 for MH0219



LB2601 for MH0130

\* Capable of linear dimming from 100% to 1% when connected to a DC1-10V dimming driver and a DC1-10V dimmer.



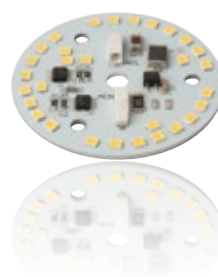


# LED LIGHT ENGINES

• TECOH® CFx

• TECOH® APx

• TECOH® THx





# TECOH® CFx

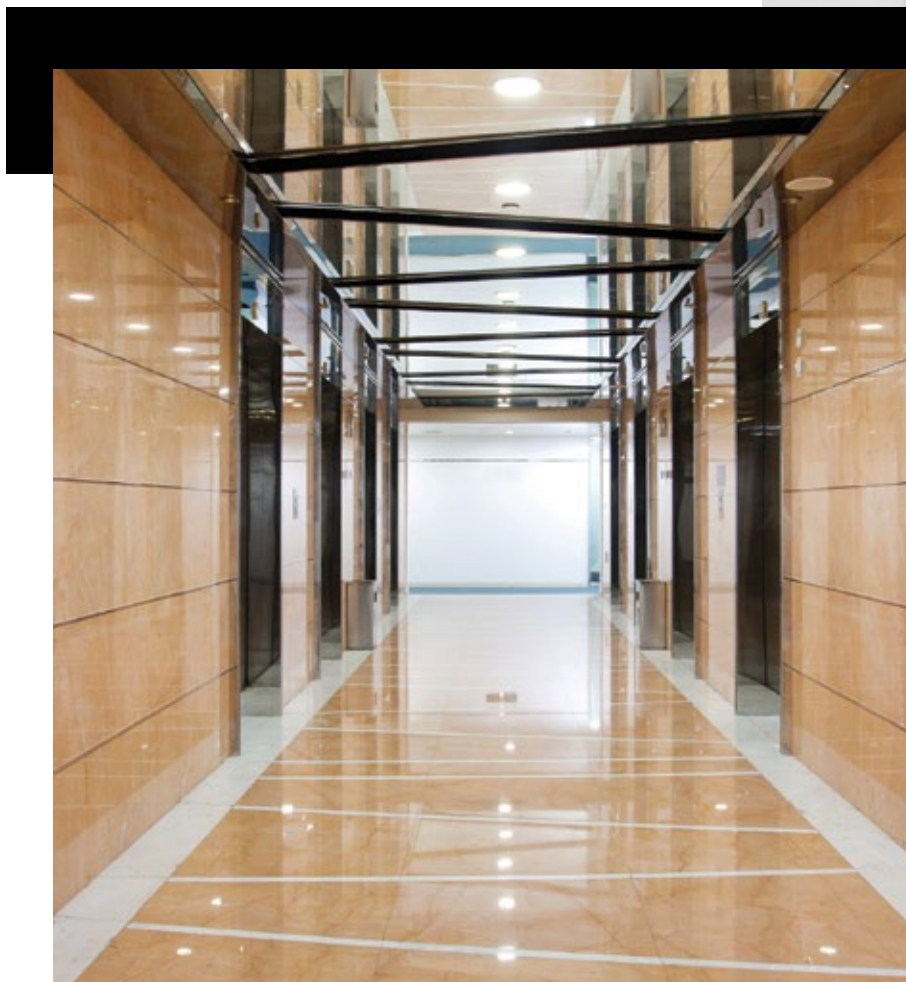
The world's first 2000 lumen LED light engines designed in line with Zhaga Specification Book 2

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





# LED LIGHT ENGINES

## TECOH® CFx



220-240V | Line Voltage

### High Efficiency Range

Product Code	Wattage (W)	Luminous Flux (lm)	Luminous Efficacy (lm/W)	Colour Temp. [CRI]	Life Time at L70 B10 and Tc 65°C (hrs)	Diameter (mm)	Height (mm)	Dimmable	Energy Label
CF0112/PHJ65d-2-828-230V	15	1200	80	2800K [Ra80]	25000	70	41	No	A+
CF0112/PHJ65d-2-840-230V	15	1200	80	4000K [Ra80]	25000	70	41	No	A+
CF0120/PHJ65d-2-828-230V	26	2000	77	2800K [Ra80]	25000	70	41	No	A
CF0120/PHJ65d-2-840-230V	26	2000	77	4000K [Ra80]	25000	70	41	No	A

### Extended Life Dimmable Range

Product Code	Wattage (W)	Luminous Flux (lm)	Luminous Efficacy (lm/W)	Colour Temp. [CRI]	Life Time at L70 B10 and Tc 65°C (hrs)	Diameter (mm)	Height (mm)	Dimmable	Energy Label
CF0212d/PHJ65d-2-828-230V	15	1100	73	2800K [Ra82]	35000	70	41	100-10% <sup>#</sup>	A
CF0212d/PHJ65d-2-840-230V	15	1200	80	4000K [Ra85]	35000	70	41	100-10% <sup>#</sup>	A+
CF0220d/PHJ65d-2-828-230V	24	1800	75	2800K [Ra82]	35000	70	41	100-10% <sup>#</sup>	A
CF0220d/PHJ65d-2-840-230V	24	2000	83	4000K [Ra85]	35000	70	41	100-10% <sup>#</sup>	A+

For use in Class I luminaires only.

<sup>#</sup> Capable of linear dimming from 100% to 10% when working with conventional leading edge dimmers. Please visit [www.megaman.cc/user-guide](http://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.

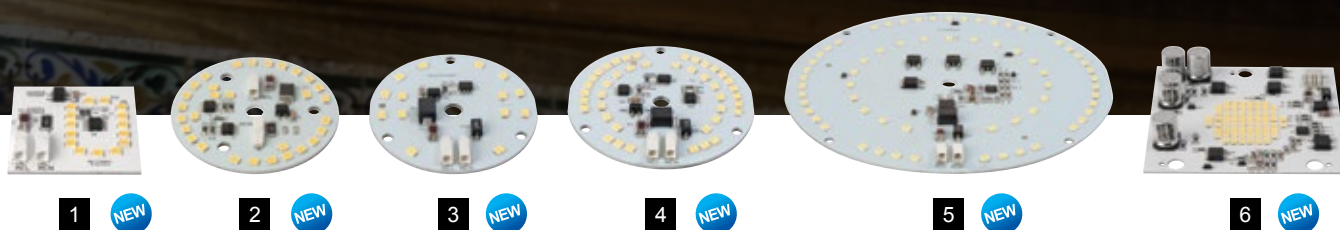
### Product Features

- 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%



# LED LIGHT ENGINES

## TECOH® APx



220-240V | Line Voltage

SDCM  
≤4

Standard Range											
Product Code	Wattage (W)	Luminous Flux at Ta 25°C (lm)	Luminous Efficacy at Ta 25°C (lm/W)	Luminous Flux at Tc 75°C (lm)	Luminous Efficacy at Tc 75°C (lm/W)	Colour Temp.[CRI]	Life Time at L70 B50 and Tc 75°C (hrs)	Dimension (mm)	Power Factor	Energy Label	Product Photo
AP0106/830-230V	9	680	76	630	70	3000K [Ra80]	50000	L40 x W40 x H5.6	>0.9	A+	1
AP0106/840-230V	9	700	78	650	72	4000K [Ra80]	50000	L40 x W40 x H5.6	>0.9	A+	1
AP0211/840-230V	12	1200	100	1100	92	4000K [Ra80]	50000	Ø60 x H5.9	>0.9	A+	2
AP0907/840-230V	9.5	750	79	700	74	4000K [Ra80]	50000	Ø60 x H6.9	>0.9	A+	3
AP1014/840-230V	18	1490	83	1400	78	4000K [Ra80]	50000	Ø60 x H6.9	>0.9	A	3
AP1121/840-230V	27	2180	81	2100	78	4000K [Ra80]	50000	Ø70 x H6.9	>0.9	A	4
AP1235/840-230V	35	3800	109	3500	100	4000K [Ra80]	50000	Ø140 x H6.9	>0.9	A+	5
AP1355/840-230V	48.5	5950	123	5500	113	4000K [Ra80]	50000	Ø140 x H6.9	>0.9	A+	5

Low Flicker Range											
Product Code	Wattage (W)	Luminous Flux at Ta 25°C (lm)	Luminous Efficacy at Ta 25°C (lm/W)	Luminous Flux at Tc 75°C (lm)	Luminous Efficacy at Tc 75°C (lm/W)	Colour Temp.[CRI]	Life Time at L70 B50 and Tc 75°C (hrs)	Dimension (mm)	Power Factor	Energy Label	Product Photo
AP0536LF/840-230V	35	3900	111	3600	102	4000K [Ra80]	50000	L80 x W80 x H15	>0.9	A+	6

\* Preliminary data

## LED LIGHT ENGINES

# 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.

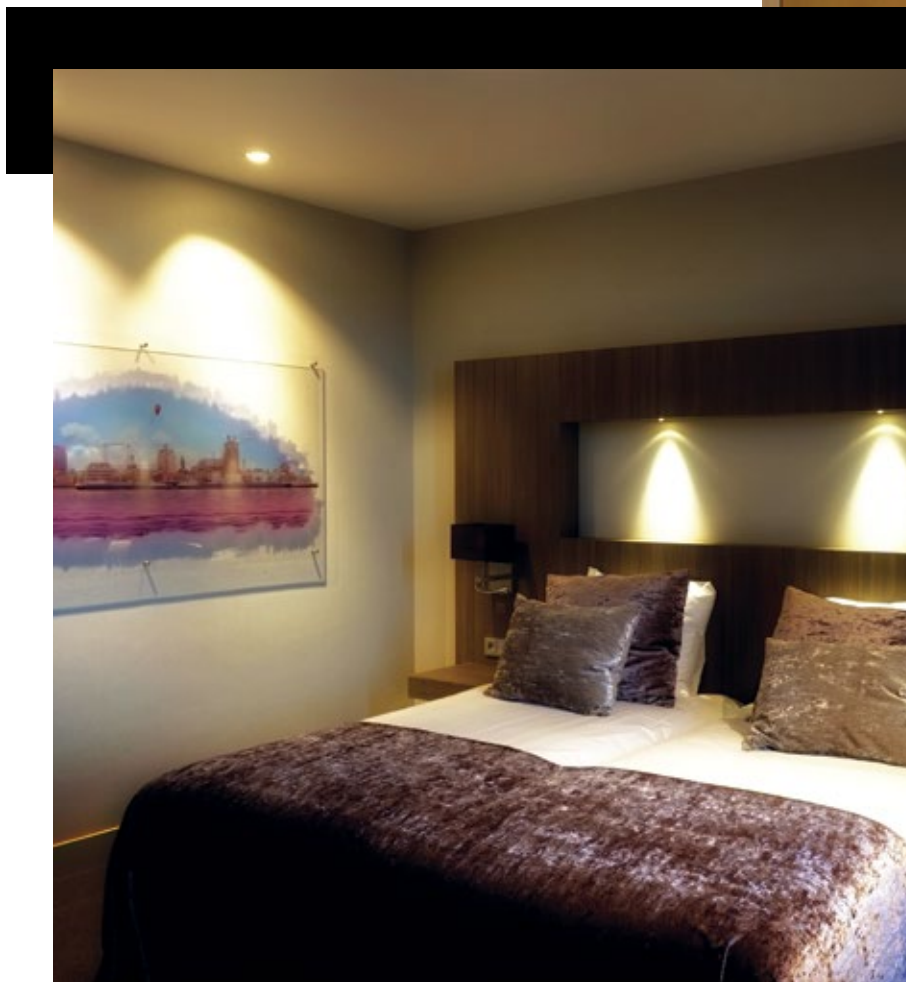
Offering enhanced beam control and efficacy, MEGAMAN®'s hybrid reflector combines the best features MEGAMAN®'s popular faceted reflector range with the total internal reflection of our optical reflector to provide a solution that performs even better than competing LED technologies.

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 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





# LED LIGHT ENGINES

## TECOH® THx



220-240V | Line Voltage

Dimmable

SDCM  
≤5

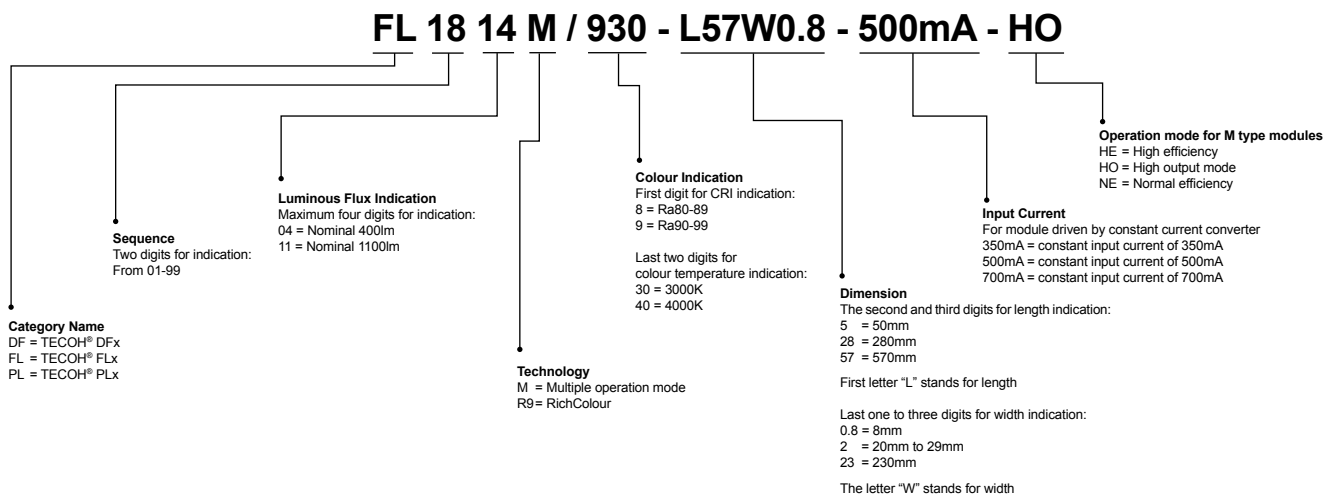
Product Code	Wattage (W)	Luminous Flux (lm)	Luminous Efficacy (lm/W)	Luminous Flux in 90° Cone (lm)	Beam Angle (°)	Max Luminous Intensity (cd)	Colour Temp. [CRI]	Rated Life at L70 B50 and Ta 25°C (hrs)	Diameter (mm)	Height (mm)	Dimmable	Energy Label	Product Photo
TH0106d-36D/828-230V	8	600	75	420	36	650	2800K [Ra80]	30000	53	66	100-10%*	A	1
TH0106d-36D/840-230V	8	630	79	440	36	650	4000K [Ra80]	30000	53	66	100-10%*	A	1
TH0205-24D/828-230V	7.5	500	67	460	24	2000	2800K [Ra80]	25000	50	65	No	A+	2
TH0205-24D/840-230V	7.5	500	67	460	24	2000	4000K [Ra80]	25000	50	65	No	A+	2
TH0205-36D/828-230V	7.5	500	67	460	36	1100	2800K [Ra80]	25000	50	65	No	A+	2
TH0205-36D/840-230V	7.5	500	67	460	36	1100	4000K [Ra80]	25000	50	65	No	A+	2
TH0205d-24D/828-230V	8	500	63	460	24	2000	2800K [Ra80]	25000	50	65	100-5%	A	2
TH0205d-24D/840-230V	8	500	63	460	24	2000	4000K [Ra80]	25000	50	65	100-5%	A	2
TH0205d-36D/828-230V	8	500	63	460	36	1100	2800K [Ra80]	25000	50	65	100-5%	A	2
TH0205d-36D/840-230V	8	500	63	460	36	1100	4000K [Ra80]	25000	50	65	100-5%	A	2
TH0205w-24D/828-230V	8	500	63	460	24	2000	2800K - 1800K [Ra80]	25000	50	65	100-5% (2800K-1800K)	A	2
TH0205w-36D/828-230V	8	500	63	460	36	1100	2800K - 1800K [Ra80]	25000	50	65	100-5% (2800K-1800K)	A	2
TH0307-24D/828-230V	8.5	700	82	640	24	2800	2800K [Ra80]	25000	50	75	No	A+	3
TH0307-24D/840-230V	8.5	700	82	640	24	2800	4000K [Ra80]	25000	50	75	No	A+	3
TH0307-36D/828-230V	8.5	700	82	640	36	1500	2800K [Ra80]	25000	50	75	No	A+	3
TH0307-36D/840-230V	8.5	700	82	640	36	1500	4000K [Ra80]	25000	50	75	No	A+	3
TH0309-24D/828-230V	10.5	900	86	830	24	3500	2800K [Ra80]	25000	50	75	No	A+	3
TH0309-24D/840-230V	10.5	900	86	830	24	3500	4000K [Ra80]	25000	50	75	No	A+	3
TH0309-36D/828-230V	10.5	900	86	830	36	1900	2800K [Ra80]	25000	50	75	No	A+	3
TH0309-36D/840-230V	10.5	900	86	830	36	1900	4000K [Ra80]	25000	50	75	No	A+	3
TH0309dBT2-24D/828-230V	11.5	900	78	830	24	3500	2800K [Ra80]	25000	50	75	100-5%	A+	3
TH0309dBT2-24D/840-230V	11.5	900	78	830	24	3500	4000K [Ra80]	25000	50	75	100-5%	A+	3
TH0309dBT2-36D/828-230V	11.5	900	78	830	36	1900	2800K [Ra80]	25000	50	75	100-5%	A+	3
TH0309dBT2-36D/840-230V	11.5	900	78	830	36	1900	4000K [Ra80]	25000	50	75	100-5%	A+	3

\* Preliminary data

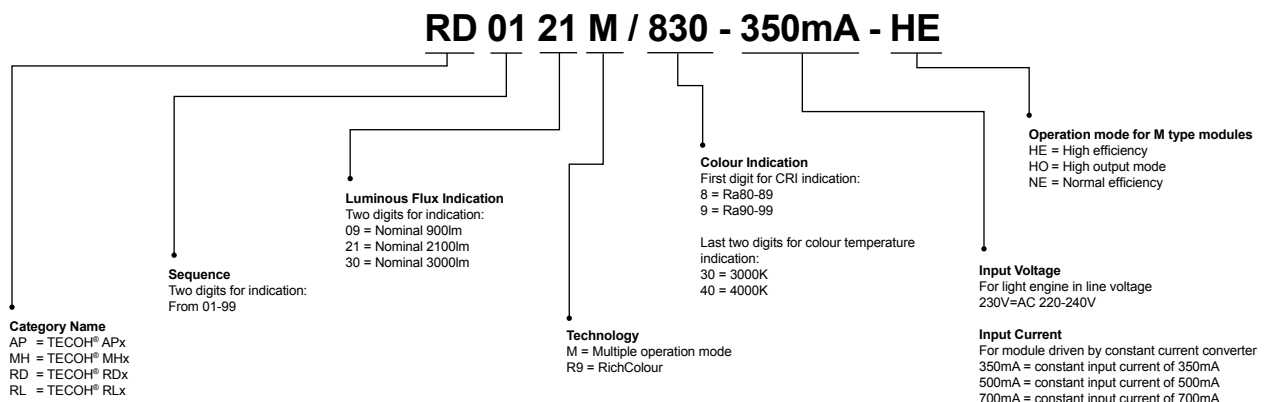
\* Capable of linear dimming from 100% to 10% when working with conventional leading edge dimmers. Please visit [www.megaman.cc/user-guide](http://www.megaman.cc/user-guide) for a list of compatible dimmers.

# Decoding the TECOH® Product Code

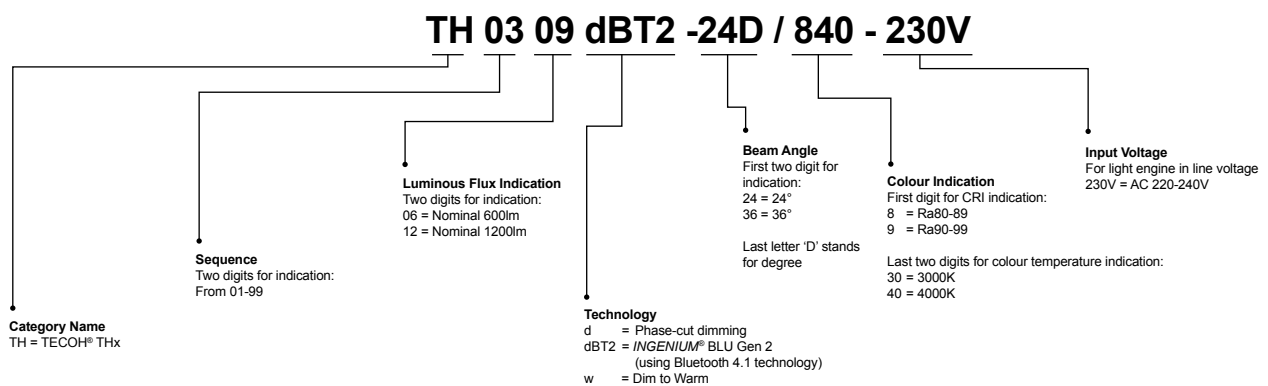
## LED Modules – TECOH® DFx, TECOH® FLx and TECOH® PLx



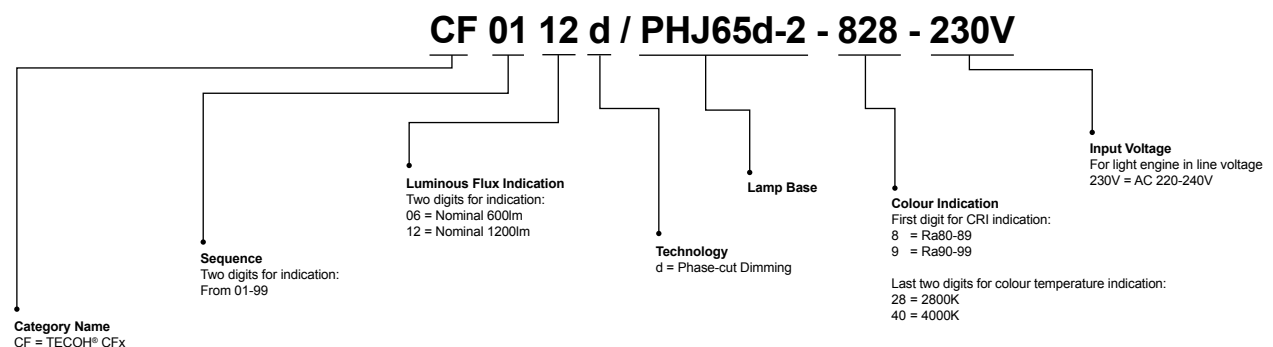
## LED Light Engine and Modules – TECOH® APx, TECOH® MHx, TECOH® RDx and TECOH® RLx



## LED Light Engine and Module – TECOH® THx



## LED Light Engine – TECOH® CFx





[www.megamantecoh.com](http://www.megamantecoh.com)

Version 5.0

© Copyright 2016. All rights reserved by MEGAMAN®.  
Printed in the UK.

All information stated is correct at the time of printing and subject to changes without prior notice.  
Please refer to [www.megamantecoh.com](http://www.megamantecoh.com) for the most updated information.