



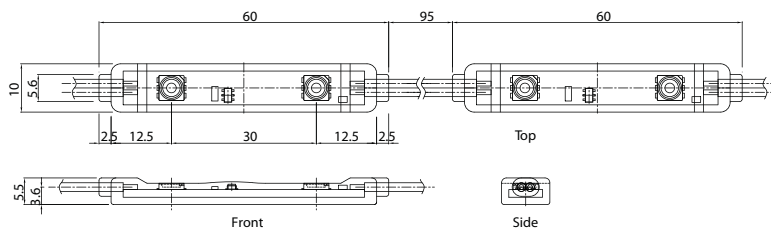
ULTRA THIN BAR-TYPE LED MODULES

The STAR C0230, transparent LED module lighting system perfect for those of who need maximum lighting output at lowest cost. It is made for low-profile channel letters with large channel width since its thickness is only 5.5mm at width of 10mm. C0230 is for small letters which depth is from 60mm to 150mm. For large letters with depth more than 120mm up to 250mm, each module of C0340 and C0640 which is another range of ULTRA THIN BAR-TYPE LED MODULES will cover up much more spaces than any other models available and will bring you the most competitive solution for your application including retrofit lighting source for neon signs and general illuminations.

- Guaranteed lifetime up to 42,500 hours with 70% lighting output
*24 hour constant load may result less operating hours with lower lighting output. Estimated lifetime is based on normal usage of 10 hours per day.
- Uniform color temperature by strictly controlled system of bin rank
- Transparent poly carbonate body for tough environment
- Reverse voltage protection to minimize hassles during installation
- Extremely small and light solution for low-profile channel letters, indoor
- 70% more energy efficiency compared to conventional sign lighting source
- Quality and reliability assured

PHYSICAL

Length : 60mm
 Width : 10mm
 Thickness : 5.5mm
 Weight : 6g
 Lamp Pitch : 20 mm (2 LED Lamps)
 Module Pitch : 155mm



OPTICAL CHARACTERISTICS

Available Color	Luminous Flux (lm)			CCT (Kelvin) & Dominant Wave Length			Viewing Angle
	Min	Typical	Max	Min	Typical	Max	2θ _{1/2}
White	30	40		9,000K	10,000K	11,000K	120
Daylight White	30	40		5,000K	6,500K	7,000K	120
Warm White	28	40		2,700K	3,000K	3,200K	120
Red	9	12		620nm		625nm	120
Green	18.8	25		525nm		530nm	120
Blue	3.7	4.4		455nm		460nm	120

*CRI (Color Rendering Index) for white product types is 70 / *Luminous Flux measuring equipment is CAS140B
 *Viewing angle is the off axis angle from lamp centerline where the luminous intensity is half of the peak value / *CCT 5% tester tolerance
 *Dominant wavelength is derived from the CIE 1931 Chromaticity diagram and represents the perceived color
 *Color temperature for white is strictly controlled by bin rank system and it consists of three ranks which should not be used simultaneously.

ELECTRICAL CHARACTERISTICS

Current dissipation : 50 mA(W/W.W), 50mA(R/G/B)
 Power Consumption : 0.6 W(W/W.W), 0.72W(R/G/B)
 Operating power : DC 12V
 Quantity for maximum connection in serial : 50 modules
 Electronic dimming control supported
 Constant current drive
 Reverse voltage protection

THERMAL

Cooling : Ambient air
 Maximum operating temperature : 60°C (140°F)
 Minimum operating temperature : -25°C (-13°F)
 Maximum storage temperature : 60°C (140°F)
 Minimum storage temperature : -30 C (-22 F)

SAFETY FEATURES

Reverse voltage protection : Device will prevent incoming power source on improper input connection

CONSTRUCTION

White LED Lamp : chip & packaging by Samsung
 Color LED Lamp : chip & packaging by Lumimicro(www.lumimicro.com)
 Body : PC(Poly Carbonate) transparent resin, 96% transparency
 PCB : FR-4 fiber glass epoxy resin, quad layered
 Lead wire : 20AWG

APPLICATIONS

Channel letters - closed cover
 Reverse halo lighting
 Border lighting
 Point-Of-Purchasing signage
 Art & sculpture and cove lightin
 Facade lighting

APPROVAL

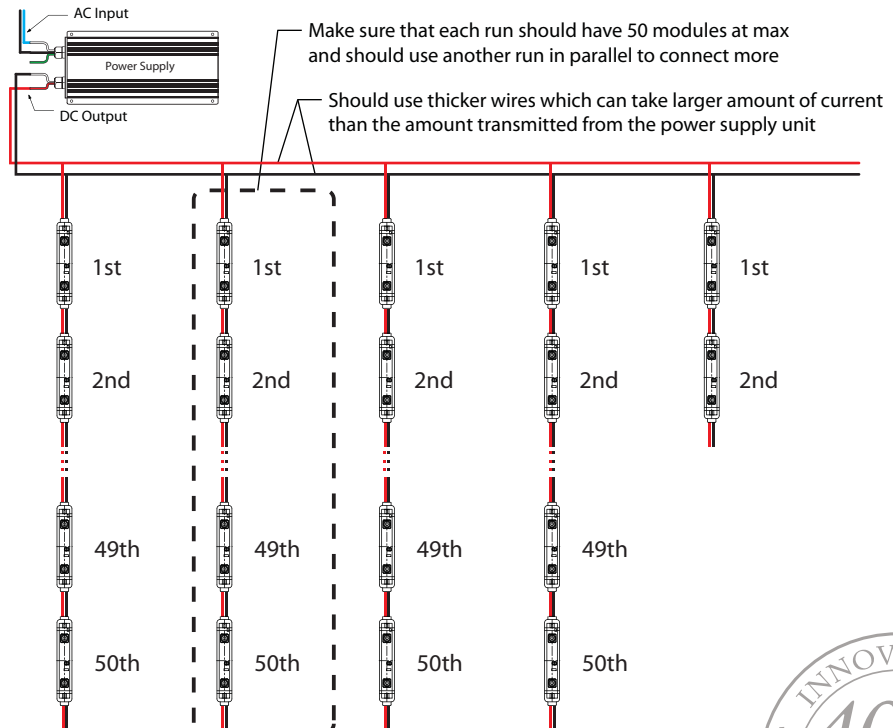
EN 55015:2000+A1:2001+A2:2002 Class B
 EN 61547:1995+A1:2000



FEATURES

Patent **NO** Issue **42,500H** LIFETIME **IP63** **NO** Voltage Drop **DC12V**

CONNECTION GUIDE WITH SMPS



SUPER BRIGHT S-LED MODULE

Specifications subject to change without notice

129 Humberstone Road, Leicester. LE5 3AP
 Tel. +44 (0)116 262 5933 Fax. +44 (0)116 262 6061 www.ledsolutions.co.uk

