BackLED S Core Product G5

24 V Backlighting modules

SPECIFICATION DATASHEET

Product Description

BackLED S CP G5 family delivers the best performance and optical effect for reliable outdoor advertising light box and channel letter designs.

Benefits

Upgraded flux output up to 46 lm.
Uniform light pattern design for 50-135 mm light-box depth.
Back-side injection technology for optimal protection.

Applications

Signage boxes, channel letters, luminous areas and ceilings.

5 Years Inventronics Guarantee | Square-Ray Technology | Safe Dimming SDT Technology

Approvals

When not printed on product label, they are under evaluation.

Product Features

- LED chain comprising 80 LED modules connected by flexible cables
- Each LED module contains 2 LEDs
- LED module pitch variable between 50 ~ 135 mm
- Compatible with INVENTRONICS OPTOTRONIC constant voltage drivers / dimmers
- Color consistency of 3 SDCM
- Patented Square Lens technology
- High efficacy at 153 lm/W
- IP66 rating
- Lifetime L80B10 50,000 h @ Tc 70°C
- 5 years warranty

TECHNICAL INFORMATION DATA FOR ENTIRE CHAIN

Product Name	Order Code [EAN10]	Color	CCT [K]	Voltage [V DC]	Power [W]	Lum. Flux [lm]	Modules per chain
BA-S-CP-810-24-G5	6937186139399	Ultra-Cool White	10000	24	27	3440	80
BA-S-CP-880-24-G5	6937186139498	Cool White	8000	24	27	3440	80
BA-S-CP-871-24-G5	6937186139474	Cool White	7100	24	27	3600	80
BA-S-CP-865-24-G5	6937186139450	Cool White	6500	24	27	3600	80
BA-S-CP-840-24-G5	6937186139436	Neutral White	4000	24	27	3653	80
BA-S-CP-830-24-G5	6937186139412	Warm White	3000	24	27	3440	80

TECHNICAL OPERATING DATA FOR SINGLE MODULE

Product Name	CCT [K]	CRI	Power [W]	Flux Output [lm]	Efficacy [lm/W]	Beam Angle [° FWHM]
BA-S-CP-810-24-G5	10000	>80	0.3	43	143	155
BA-S-CP-880-24-G5	8000	>80	0.3	43	143	155
BA-S-CP-871-24-G5	7100	>80	0.3	45	150	155
BA-S-CP-865-24-G5	6500	>80	0.3	45	150	155
BA-S-CP-840-24-G5	4000	>80	0.3	46	153	155
BA-S-CP-830-24-G5	3000	>80	0.3	43	143	155

GENERAL

Dimmable	Yes 1%...100%, via Pulse Width Modulation (PWM)
Binning	Single bin fine white, 3 SDCM
Lifetime	up to 50,000 h (L80B10, @ Tc max)
Warranty	5 years [1)]
Ingress protection	IP66 [2)]
Adhesive tape on backside	3M
Complementary systems	BackLED Mounting Profile, OPTOTRONIC CV drivers and dimmers, INVENTRONICS LMS
Certifications	CE, ENEC, UL, BIS [3)]

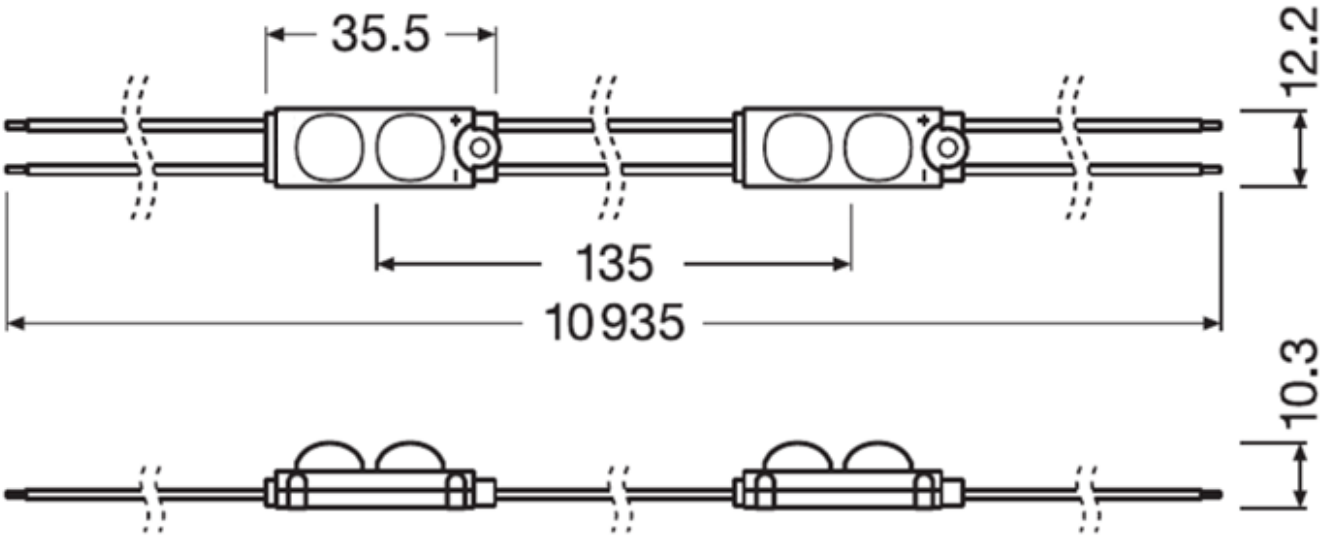
[1)]: Five-year warranty is provided only when the module is installed with proper screws or other suggested installation methods (e.g. mounting profile) on back plane.
[2)]: The LED modules must not be operated in places which are directly exposed to atmospheric conditions. For outdoor applications, hence the LED module must be protected by appropriate sealed enclosures or covers. Operation in or under water is prohibited.
[3)]: When not printed on product label, they are under evaluation

OPERATING CONDITIONS

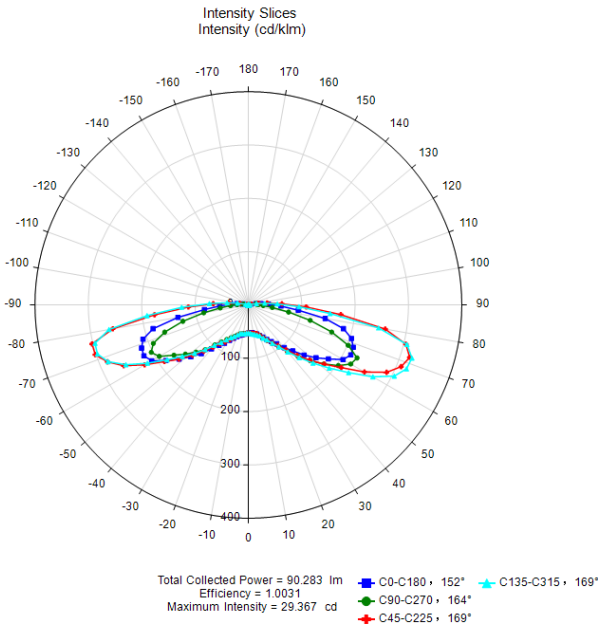
Operating temperature Tc-Max (measured at Tc-Point) [°C]	-25…+70
Storage temperature [°C]	-25…+85
Voltage range [V DC]	23.4…24.9
Reverse voltage protection [V DC]	25 max

- Exceeding maximum ratings for operating and storage temperature will reduce the expected lifetime or destroy the LED modules.
- Exceeding maximum ratings for operating voltage will cause hazardous overload and will likely destroy the LED modules.
- The temperature of the LED modules must be measured at the Tc-point according to EN60598-1 in a thermally constant status with a temperature sensor or a temperature sensitive label. For exact location of the Tc-point see product user instruction.

MECHANICAL DRAWINGS AND DIMENSIONS



LIGHT DISTRIBUTION



155° (±10%)

Square-Ray Lens®

LAYOUT GUIDELINE

Product Name	Box depth [mm]	Module pitch [mm] with translucency material of:			Modules / m² with translucency material of:		
Diffuser Type		*Vinylic*	*Acrylic*	*Acrylic*	*Vinylic*	*Acrylic*	*Acrylic*
Target Intensity		*600Cd/m²*	*1000Cd/m²*	*1000Cd/m²*	*600Cd/m²*	*1000Cd/m²*	*1000Cd/m²*
Translucency		**41%**	**35%**	**45%**	**41%**	**35%**	**45%**
BA-S-CP-8xx-G5	**80**	138	93	96	52	115	109
	130	129	88	87	61	130	133
	180	120	82	82	70	149	149

Suggestions based on high luminance requirement
This guideline is only an approximation. The actual luminance and uniformity results can deviate due to many different application parameters, e.g. including but not limited to reflection of box inner surface, overall box/letter dimensions, optical parameters of the light emitting surface, … etc.
INVENTRONICS suggests testing the module performance in your eventual project design to make sure of brightness, uniformity and final colour appearance.
INVENTRONICS professional team is available for final layouting suggestions.

ACCESSORIES

This product is compatible with following accessories

Description	Product Name	EAN10	EAN40
Click&Play mounting profile	BA-MP-SM-G5-2M	6937186140548	6937186140555 (50pcs)
Click&Play cable clip	BA-CLIP-SM-G5	6937186140562 (50pcs)	6937186140579

SAFETY INFORMATION

- The LED module itself and all its components must not be mechanically stressed.
- Assembly must not damage or destroy conducting paths on the circuit board.
- To avoid mechanical damage, the LED modules should be attached securely to the intended substrate. Heavy vibration should be avoided.
- Once modules are glued by means of their tapes on the application surface, modules must not be removed and re-located. This would lead to mechanical stress and IP rate may not be granted as well as lifetime.

The LED module incorporates no protection against short circuits, overload or overheating.
In order to drive Inventronics LED-Modules safely, it is absolutely necessary to operate them with an electronically stabilized power supply protecting against short circuits, overload and overheating.
OPTOTRONIC® electronic control gear complies to all relevant standards and guarantees safe operation.
For dimming applications attention should be paid to specific references in “OPTOTRONIC® Technical Guide”.
To also ease the luminaire/installation approval, electronic control gear for LED or LED modules must carry the CE mark.
In Europe LED modules declaration of conformity must include the following standards:
CE: IEC/TR 62778, IEC/EN 61347-1, IEC/EN 60529, IEC/EN 62031, IEC/EN 60598-1, IEC/EN 61347-1, IEC/EN 61547, IEC/TR 62778.
Please see the relevant application guides for more detailed information.

- Installation of LED modules (with power supplies) needs to be made with regard to all applicable electrical and safety standards.
- Observe correct polarity! Incorrect polarity will lead to no light emission and may cause damage of the LED module.
- Parallel connection is highly recommended as safe electrical operation mode. Serial connection is not recommended. Unbalanced voltage drop can cause hazardous overload and damage the LED module.

- Electrical contact is achieved with the contact cables.
- Cutting within the chain is only allowed between the wiring of the modules.
- Pay attention to ESD steps when mounting the module.
- When using power supplies other than INVENTRONICS OPTOTRONIC®, in order to ensure continuous safe operation, the input voltage at modules has to be 23.4…24.9 V.
- LED modules are dimmable by means of PWM (pulse width modulation). It is recommended using OPTOTRONIC® 24 V dimmable drivers or following INVENTRONICS constant voltage dimmers: OPTOTRONIC® OT DIM, OTi DALI DIM 1-4CH D, OT BLE DIM.
- The LED modules must not be operated in places which are directly exposed to atmospheric conditions. For outdoor applications, hence the LED modules have to be protected by appropriate sealed enclosures or covers. Operation in or under water is prohibited.
- Each LED module is equipped with a pre-mounted double-sided adhesive tape which allows optional or additional mounting aid. Due to varying properties of adherents and multiple external influences during the operation of the modules, INVENTRONICS assumes no liability and provides no guarantee for a permanent adherence of the modules to the surface. INVENTRONICS recommends fixation of the modules by means of suitable screws or compatible INVENTRONICS mounting profile.
- To ensure uniform illumination, a reflective matt white surface is generally recommended for all internal frame walls and back panels of light boxes.
- This product is considered to be a "containing product" in the sense of Regulations (EU) 2019/2020 and (EU) 2019/2015.
- Tolerances of the reported values, are according to LED Modules Performance standard IEC/EN 62717
- In general, the replacement of the contained light sources without permanent damage to the product with the use of common available tools is possible in the final application when they can be dismantled from the installation environment and substituted for the necessary number of light sources restoring its full electrical/mechanical/thermal/optical functionality by means of a professional installer.
- Dismantling of light sources from containing products at end of life: Containing products with light sources which are scalable in length can be cut to the length of the contained light source and if applicable mechanically detached from protective and/or optical covers. Containing products shall be separated from building material and/or from other additional mounting accessories by means of a professional installer. Separate control gear and light sources must be disposed of at certified disposal companies in accordance with Directive 2012/19/EU (WEEE) in the EU and with Waste Electrical and Electronic Equipment (WEEE) Regulations 2013 in the UK. For this purpose, collection points for recycling centres and take-back systems (CRSO) are available from retailers or private disposal companies, which accept separate control gear and light sources free of charge. In this way, raw materials are conserved and materials are recycled.

ORDERING CODES

Description	EAN10*	EAN40	S-UNIT** (pcs)
BA-S-CP-810-24-G5	6937186139399	6937186139405	20
BA-S-CP-880-24-G5	6937186139498	6937186139504	20
BA-S-CP-871-24-G5	6937186139474	6937186139481	20
BA-S-CP-865-24-G5	6937186139450	6937186139467	20
BA-S-CP-840-24-G5	6937186139436	6937186139443	20
BA-S-CP-830-24-G5	6937186139412	6937186139429	20

* EAN 10: Ordering number per single sale unit bag
** S-Unit: Chain (EAN10) number per shipping unit (EAN40)

SALES AND TECHNICAL SUPPORT

www.inventronicsglobal.com

Inventronics S.r.l
Via Castagnole 65/A:
Parkring 31-33
31100 Treviso
Italy
www.inventronicsglobal.com