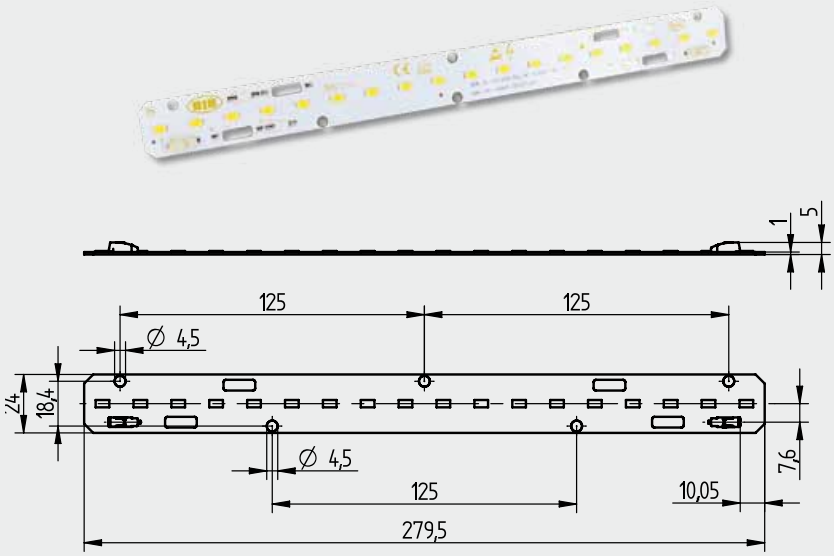
# LED Module BJB Linus 280 mm x 24 mm

**31.130**




| pkg. | wt. | part no. |
|---|---|---|
| 1 | 27 g | **31.130.**0030.00 |

**LED Module BJB Linus 280 mm x 24 mm**

**Range of applications:**
Linear- and panel lights for office, commercial and industrial applications
Office: workplace lighting and corridors
Industry: car parks, department stores and warehouses
Public applications: corridors, stairways and subways

- Suitable for serial and parallel connection
- Easy and secure assembly by P2F- Push-to-Fix - fixing elements or screws
- Suitable for operation in SELV and non-SELV applications
- Easy linking / connecting of modules via two SMD terminal blocks
- Seamless light distribution
- Optimised for manual- and ADS-wiring
- Module output up to 2.500 lm/m
- Module efficiency up to 144 Lumen / Watt (A++)
- Adjustable luminous flux and efficiency
- Photobiological safety: Risk group: 0
- Warranty*: 5 Years
- CE

| **Photometric Data** | Tc 25 °C | Tc 50 °C |
|---|---|---|
| Luminous flux | 770 lm | 750 lm |
| Module efficiency | 143 lm/W | 144 lm/W |
| Colour temperature | 4.000 K | |
| Colour Rendering Index CRI | >80 | |
| Colour tolerance | ≤ 3,5 SDCM | |
| Colour code | 840 / 3xx | |
| Number of LEDs per module | 18 | |
| Beam angle | 120° | |

| **Temperature Data** | |
|---|---|
| Max. temperature at Tc point | max. 70° C |
| Operating temperature | -30° C up to +45° C |
| Storage temperature | -30° C up to +45° C |

| **Electrical Data** | | |
|---|---|---|
| Operating mode | Direct Current | |
| Operational current $I_f$ (mA) | 300 mA | |
| Max. operational current $I_f$ (mA) | 500 mA | |
| Operational voltage $U_f$ (V) | 17,9 V | 17,4 V |
| Max. admissible voltage | 200 V | |
| Power consumption (W) | 5,4 W | 5,2 W |
| Dimmable | yes, with suitable electronic control gear | |

Tolerances of optical and electrical data: ± 10%

| **Energy Data** | |
|---|---|
| Power consumption kWh/1.000h | 5,72 |
| Energy-Efficiency | A++ |
| Average life span (L70) | 50.000 h |

* Warranty conditions of BJB GmbH & Co KG as stated on page 100 of the LED Applications catalogue (Issue No.1 - 2014) and as available via the Internet under www.bjb.com/warranty-conditions.html are valid.

LED CAD

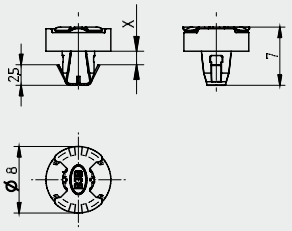
# LED - Lighting and connection technology

**31.130**

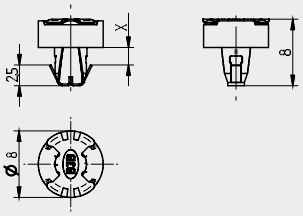
## LED Module BJB Linus 280 mm x 24 mm

Applicable with:
P2F - Push-to-Fix
**28.901**.Uxxx

28.901.U162 - 28.901.U164




28.901.U165 - 28.901.U166



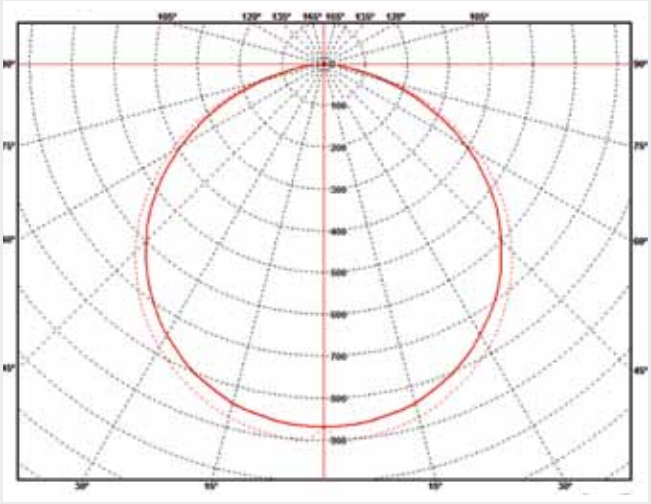

| Part no. | Thickness of PCB and panel: X | Ring-Colour-Code |
|---|---|---|
| **28.901**.U162.10 | 1.5 - 2.0 mm | transparent natural |
| **28.901**.U163.10 | 2.0 - 2.4 mm | transparent yellow |
| **28.901**.U164.10 | 2.4 - 2.7 mm | grey |
| **28.901**.U165.10 | 2.7 -3.2 mm | white |
| **28.901**.U166.10 | 3.2 - 3.6 mm | blue |

P2F - Push-to-Fix - Fixing element
Push in fixing for mounting modules and BJB optic holder into light fitting housing
Material: CrNi with silicon insulating ring
Provides consistent and constant contact pressure
Contact pressure: min. 10 N
Push in fixing: for hole pattern ø 4.2 mm

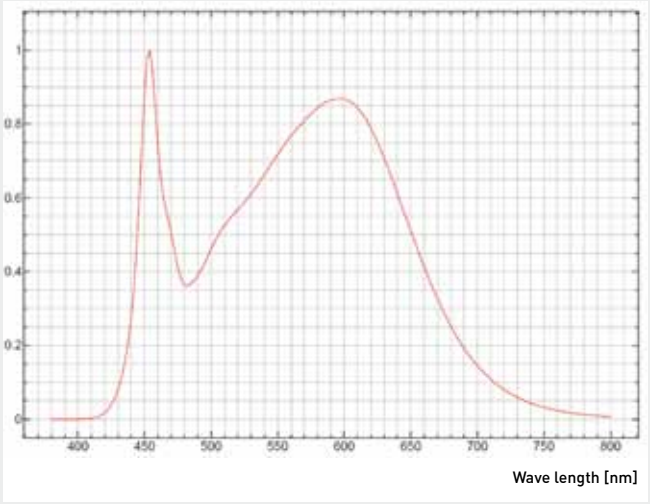
- Quick assembly process improves production efficiency and reduces production costs
- Eliminates potential damage from screw fixing due to low insertion force
- CrNi and silicone materials ensure long life reliability
- Reliable heat dissipation due to a constant pressure
- Suitable for Zhaga standardised hole sizes of ø 4.7 mm in LED board to ensure future proofed designs
- Assembly without any additional tools
- Solutions for Automation upon request
- Removable connection

80°C | CAD | i

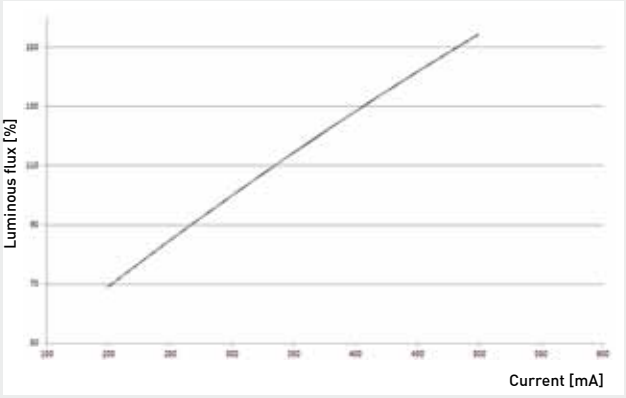
**Light distribution**



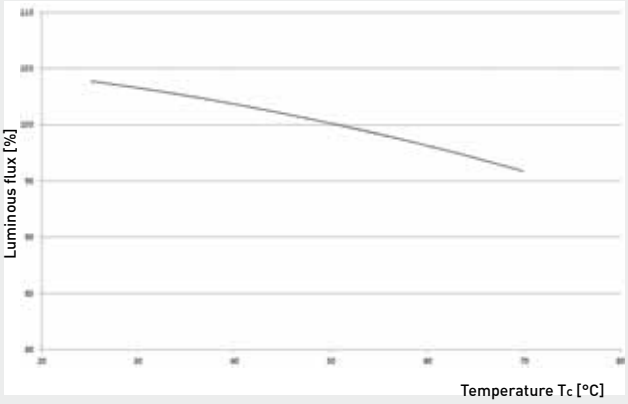
**Spectral intensity**




**Relative luminous flux based on operational current**

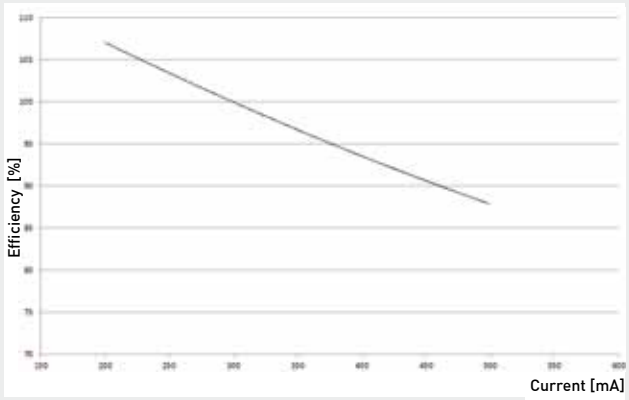



**Relative luminous flux based on Tc**

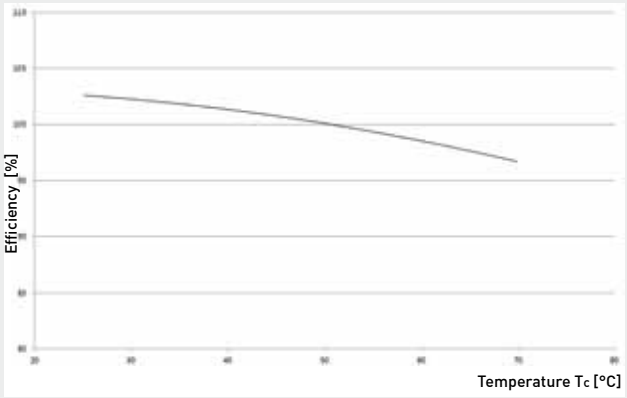


# LED Module BJB Linus 280 mm x 24 mm

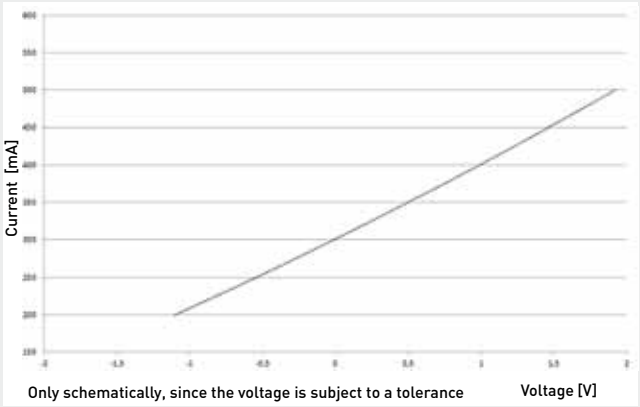
### Efficiency / leading power



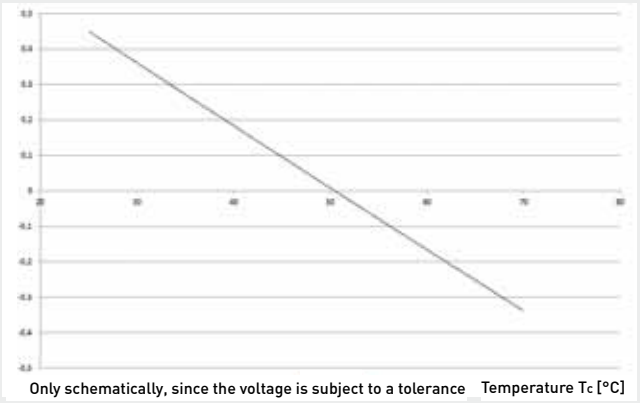

### Efficiency / temperature



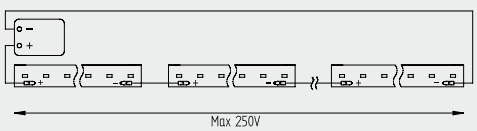

### Electrical current / voltage characteristics



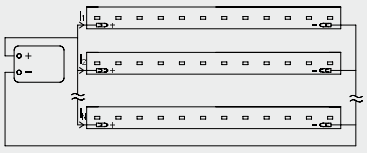

### Voltage / temperature



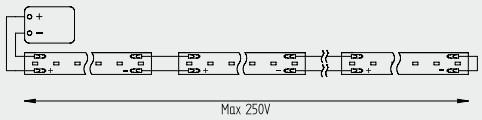

### Series connection



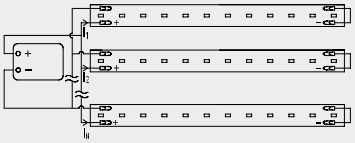

### Parallel connection



### Series connection with return terminal block




### Parallel connection with return terminal block



# General information for LED Module BJB Linus 280 mm x 24 mm

**EOS/ESD safety guidelines**
Some components of the BJB /// OEM – Line Modular System might be harmed by electrostatic discharge (ESD) and electrical overstress (EOS) and may only be installed in the factory and on site if appropriate EOS/ESD protection measures have been taken.
Modules with enclosed housing, where no contact to the LED module is possible do not need special measures for protection of electrostatic discharge (ESD).

**Assembly instructions**
The LED module may be exposed to tensile or compressive stresses.
We recommend the use our P2F-Fixing element (**28.901**.Uxxx):
- Quick assembly process improves production efficiency and reduces production costs
- Eliminates potential damage from screw fixing due to low insertion force
- CrNi and silicone materials ensure long life reliability
- Reliable heat dissipation due to a constant pressure
- Suitable for Zhaga standardised hole sizes of ø 4.7 mm in LED board to ensure future proofed designs
- Assembly without any additional tools
- Solutions for Automation upon request
- Removable connection

**Screw fixing**
The LED Modules are fixed with at least three screws. For optimised thermal connection we recommend the use of all screw fixing holes. To protect the LED modules against damages only dome headed screws and locking washer should be used. Max. torque for screw fixing: 0,5 Nm

**Note to chemical reactions**
Chemical substances may harm the LED module. This could lead to reduced luminous flux, colour shift or total failure of the module caused by corrosion of electrical connections. Avoid corrosive atmosphere during usage and storage.

**Life span and lumen maintenance**
The light output of an LED module decreases over the life-time, this is characterized with the L value.
L70 means that the LED module will give 70 % of its initial luminous flux. This value is always related to the number of operation hours and therefore defines the lifetime of an LED module. As the L value is a statistical value and the lumen maintenance may vary over the delivered LED modules.

**Thermal design, tc point, ambient temperature and life-time**
The rated life of an LED module depends to a large extent on the temperature. If the permissible temperature limits are exceeded, the life of the LED module will be greatly reduced or the module may be destroyed.

The temperature at tc reference point is crucial for the light output and life-time of an LED module.

**Electrical supply**
- LED modules from BJB are not protected against overvoltages, overcurrents, overloads or short-circuit currents.
- Safe and reliable operation can only be guaranteed in conjunction with an LED control gear which complies with the relevant standards.
- BJB LED Module must be supplied by a constant current LED control gear.
- Operation with a constant voltage LED control gear will lead to an irreversible damage of the module.
- Wrong polarity can damage the LED module.
- If LED modules are wired in parallel connection and a wire breaks or a complete module fails then the current passing through the other module increases. This may reduce its life considerably.
- In addition there can be slight differences in light output caused by tolerances.

**Wiring and cross section**
The BJB LED modules are equipped with BJB SMD terminal blocks. The wiring can be solid cable with a cross section of 0,34 up to 0,75 mm². For perfect function of our SMD terminal blocks you have to strip the insulation 8,0+1 mm.

No tools required! Wires can be released by twisting and pulling the wire simultaneously.