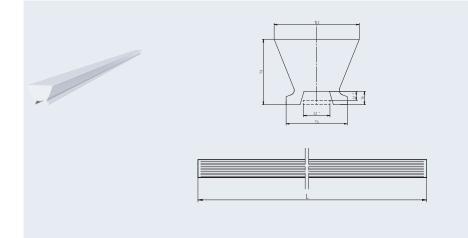
System illustration





100

## Linear extrusion optics

Material: PMMA, clear Snap-in fixing into holder **31.930**.-34X Optimised for LED type 2835, 3030 and 5630

- Extremely slim
- For application directly above the LED
- No additional profile for guidance required
   Standard length: 560 and 1.120 mm
- Height: 7.9 mm Width: 10.3 mm
- Optics provides room for thermal expansion of the LED module
- For use as primary optics in linear and area lighting applications
- Uniform light distribution
- Additional versions on request







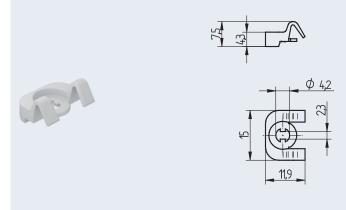






|          |   |                       |   |   | 1190  | 0-04 -0-09 1150   | 1.10  |
|----------|---|-----------------------|---|---|---|---|---|
| Length   | Optical<br>efficiency   | Narrow beam<br>(FWHM) | Medium<br>wide (FWHM)   | Medium<br>wide (FWHM)   | Wide<br>(FWHM)  | Double<br>asymmetric  | Single<br>asymmetric  |
| 560 mm   | typical 94%   | 44°                   |   |   |   |   |   |
| 1.120 mm | typical 94%   | 44°                   |   |   |   |   |   |
|          |   |                       |   |   |   |   |   |
| 560 mm   | typical 93%   |                       | 53°   |   |   |   |   |
| 1.120 mm | typical 93%   |                       | 53°   |   |   |   |   |
|          |   |                       |   |   |   |   |   |
| 560 mm   | typical 92%   |                       |   | 60°   |   |   |   |
| 1.120 mm | typical 92%   |                       |   | 60°   |   |   |   |
|          |   |                       |   |   |   |   |   |
| 560 mm   |   |                       |   |   | 90°   |   |   |
| 1.120 mm |   |                       |   |   | 90°   |   |   |
|          |   |                       |   |   |   |   |   |
| 560 mm   |   |                       |   |   |   | ±30°  |   |
| 1.120 mm |   |                       |   |   |   | ±30°  |   |
|          |   |                       |   |   |   |   |   |
| 560 mm   |   |                       |   |   |   |   | +15°  |
| 1.120 mm |   |                       |   |   |   |   | +15°  |
|          | 560 mm 1.120 mm  560 mm 1.120 mm  560 mm 1.120 mm  560 mm 1.120 mm  560 mm 1.120 mm | Length                | Length         Optical efficiency         Narrow beam (FWHM)           560 mm         typical 94%         44°           1.120 mm         typical 94%         44°           560 mm         typical 93%           1.120 mm         typical 92%           1.120 mm         typical 92%           560 mm         1.120 mm           560 mm         1.120 mm | Length         Optical efficiency         Narrow beam (FWHM)         Medium wide (FWHM)           560 mm         typical 94%         44°           1.120 mm         typical 94%         44°           560 mm         typical 93%         53°           1.120 mm         typical 93%         53°           560 mm         typical 92%           1.120 mm         typical 92%           560 mm         1.120 mm           560 mm         1.120 mm | Length         Optical efficiency         Narrow beam (FWHM)         Medium wide (FWHM)         Medium wide (FWHM)           560 mm         typical 94%         44°           1.120 mm         typical 94%         53°           560 mm         typical 93%         53°           1.120 mm         typical 92%         60°           1.120 mm         typical 92%         60°           560 mm         1.120 mm         560 mm           1.120 mm         560 mm         1.120 mm | Length         Optical efficiency         Narrow beam (FWHM)         Medium wide (FWHM)         Medium wide (FWHM)         Wide (FWHM) <th< th=""><th>Length         Optical efficiency         Narrow beam (FWHM)         Medium wide (FWHM)         Wide (FWHM)         Wide (FWHM)         Double asymmetric           560 mm         typical 94%         44°&lt;</th></th<> | Length         Optical efficiency         Narrow beam (FWHM)         Medium wide (FWHM)         Wide (FWHM)         Wide (FWHM)         Double asymmetric           560 mm         typical 94%         44°< |





pkg. 700 wt.

2 g 2 g 31.930.-342.50 white 700 **31.930.**-343.85 transparent

## Holder for 20 mm wide LED modules and extrusion optics

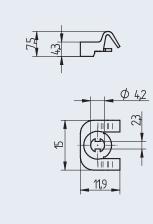
Material: PC

Easy and quick assembly with standardised P2F (Push to Fix) 28.901

- Easy, fast and secure optics mounting by clip in fixing from above
- Universal application no defined hole spacing
- Integration of the optics without disturbing the light image
- Assembling of optic holder and optics in one step

Recommended number of optic holders: 7 pcs. at 560 mm length of the LED modules

Optimised for use of 1.120 mm LED modules



| colour               | pkg.       | wt.        | part no.   | clamping range |
|----------------------|------------|------------|--|----------------|
| white<br>transparent | 700<br>700 | 2 g<br>2g  | <b>31.930</b> .U301.50 <b>31.930</b> .U306.85    | 0.3 - 0.8 mm   |
| white<br>transparent | 700<br>700 | 2 g        | <b>31.930</b> .U302.50<br><b>31.930</b> .U307.85 | 0.8 - 1.2 mm   |
| white<br>transparent | 700<br>700 | 2 g<br>2 g | <b>31.930</b> .U303.50<br><b>31.930</b> .U308.85 | 1.6 mm         |

#### Holder with pre-assembled P2F (Push to Fix) 28.901 for 20 mm wide LED modules and extrusion optics

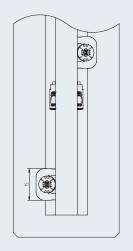
Material:

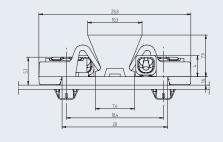
P2F (Push to Fix): Metall: CrNi with silicone ring

- Easy, fast and secure optics mounting by clip in fixing from above
- Universal application no defined hole spacing
- Integration of the optics without disturbing the light image
- Assembling of optic holder and optics in one step

Recommended number of optic holders: 7 pcs. at 560 mm length of the LED modules

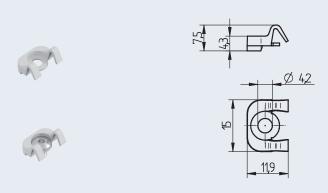
Optimised for use of 1.120 mm LED modules





Example of application with 20 mm LED module and P2F





pkg. 700 part no. wt.

2 g **31.930.**-344.50

## Holder for extrusion optics and 20 mm wide LED modules

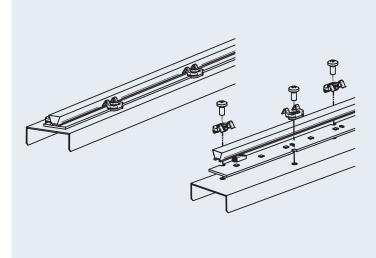
Material: PC

Easy and quick assembly with standardised screws  $\mbox{\rm M3}$ 

- $\bullet$  Easy, fast and secure optics mounting by clip in fixing from above
- Universal application no defined hole spacing
- Integration of the optics without disturbing the light image
- Assembling of optic holder and optics in one step

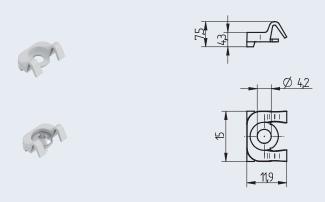
Recommended number of optic holders: 7 pcs. at 560 mm length of the LED modules

Optimised for use of 1.120 mm LED modules



## System illustration





pkg. 700 wt. part no

2 g 31.930.-345.50 white

#### Holder for extrusion optics and 24 mm wide LED modules

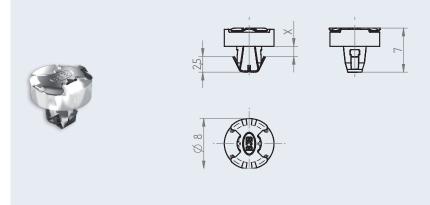
Material: PC

Easy and quick assembly with P2F (Push to Fix) 28.901 or standardised screws M3

- Easy, fast and secure optics mounting by clip in fixing from above
- Universal application no defined hole spacing
- $\bullet$  Integration of the optics without disturbing the light image
- Assembling of optic holder and optics in one step

Recommended number of optic holders: 7 pcs. at 560 mm length of the LED modules

Optimised for use of 1.120 mm LED modules



| Colour | pkg. | wt. | part no.               | Overall<br>thickness |
|--------|------|-----|------------------------|----------------------|
| grey   | 5000 | 2 g | <b>28.901</b> .U164.10 | 2.4 - 2.7 mm         |
| white  | 5000 | 2 g | <b>28.901</b> .U165.10 | 2.7 - 3.2 mm         |
| blue   | 5000 | 2 g | <b>28.901</b> .U166.10 | 3.2 - 3.6 mm         |

#### Push-to-Fix (P2F) -Fixing element

Push-in fixing for mounting LED modules and BJB- Optic holder into a luminaire housing Material: CrNi with silicone ring Constant and reliable pressure by means of elastical

Contact pressure: min. 10 N Push-in fixing: for hole pattern in light fitting ø 4.2 +/- 0.1 mm and ø 4.7 +/- 0.1 mm in PCBs

- 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 certified LED modules. BJB recommends to use modules with 4.7 mm fixing hole
- Assembly without any additional tools possible
- Solutions for Automation upon request
- Removable from front

# System illustration

