

Structured Lights OPT-SL/OPT-SLS Series

Patented



OPT-SL Direct Structured Lights

Product Features

Main Features

- Compatible with all C-Mount lenses. Adjustable back focal length, without requiring additional adapter rings
- Uniform pattern with sharp edge, high illumination accuracy
- Perpendicular to the measured surface (For tilt illumination, please refer to OPT-SLS).

Application Cases

- 3D analysis and reconstruction
- Gauging for objects with complex structures or bevels
- Gauging for electronic components
- Product flatness inspection
- Pick and place with robot

Selection Guide

- OPT-SL03
- Power
 - Direct structured light
 - Brand name

Customizable Items



Color



Mounting

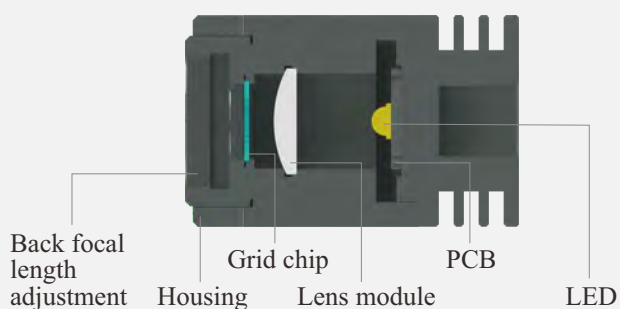


Size

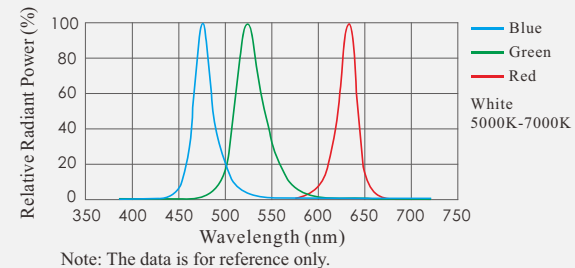


Power

Section Structure Drawing

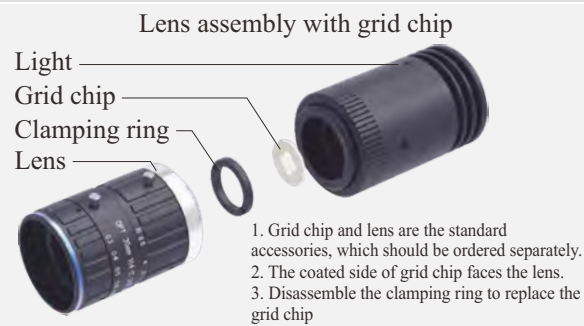


Spectrum Chart



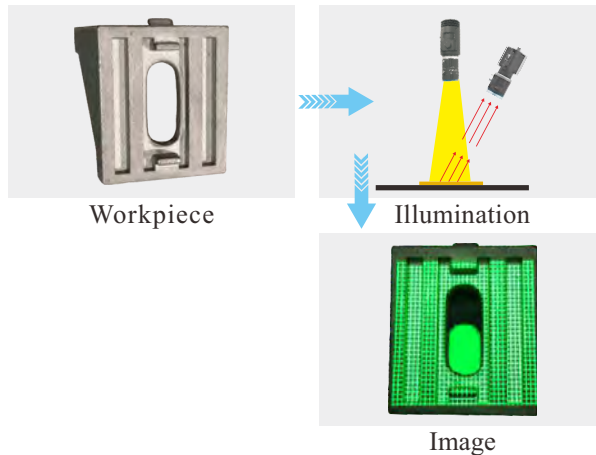
Note: The data is for reference only.

Series features



Application Cases

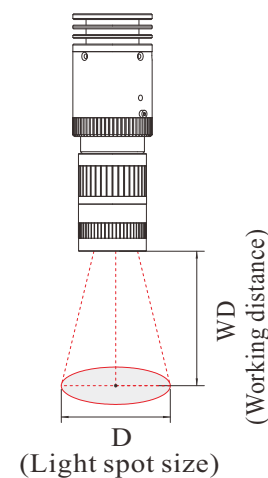
- Height gauging for metal parts



Lens and spot size

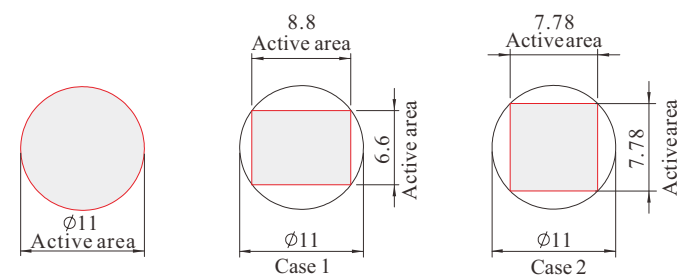
Lens Model	Working Distance (WD)						
	50mm	100mm	150mm	200mm	300mm	400mm	500mm
OPT-C0825-5M	90	160	220	280	420	460	-
OPT-C1216-5M	70	110	160	200	290	380	490
OPT-C1614-5M	-	90	120	150	220	300	360
OPT-C2514-5M	-	-	70	100	140	170	210
OPT-C3514-5M	-	-	-	-	100	130	160

Notes: 1. The data is tested with OPT-SL03 and OPT-SL10, which is for reference only.
2. The light is also compatible with other C-Mount lenses with 2/3" image circle.



Customization for Grid Chip

- Grid chip active area



OPT-PGS-L-0.05 Spec.: Line Line width: 0.05mm	OPT-PGS-G-0.05-0.45 Spec.: Grid Line width: 0.05mm Line gap: 0.45mm
OPT-PGS-G-0.05 Spec.: Cross Line width: 0.05mm	OPT-PGS-R-0.05-0.15 Spec.: Round Line width: 0.05mm Line gap: 0.15mm
OPT-PGS-L-0.05-0.45 Spec.: Stripe Line width: 0.05mm Line gap: 0.45mm	OPT-PGS-D-0.05-0.3 Spec.: point cloud grid Shape: random square point cloud Side length of square point: 0.05mm Area proportion of square point: 30%

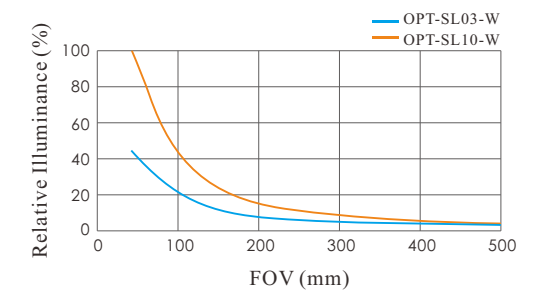
- Grid chip accuracy can be $\leq 2\mu\text{m}$.
- Grid chip is customizable with provided precise geometric parameters.
- The minimum line width and line spacing of grid can be as low as 0.02mm.

Illuminance

Model	Illuminance (Unit:100 lx)	Model	Illuminance (Unit:100 lx)
OPT-SL03-R	120	OPT-SL10-R	280
OPT-SL03-G	130	OPT-SL10-G	320
OPT-SL03-B	170	OPT-SL10-B	510
OPT-SL03-W	330	OPT-SL10-W	700

Note: The data is obtained with the 25mm focal length lens (F#=1.4, WD=100mm) and no grid chip. It is for reference only.

Relative Illuminance Comparison



Note: The data is obtained in the same testing conditions. It is for reference only.

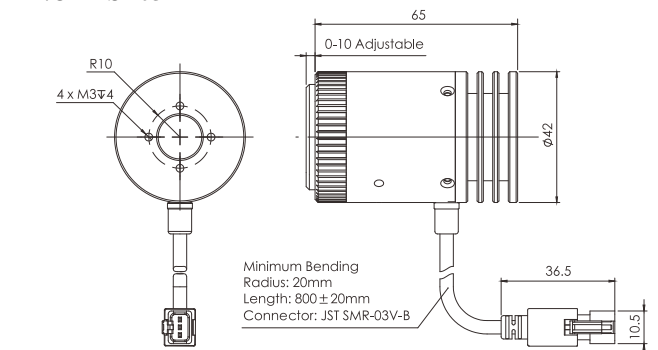
Model Table

No.	Model	* Input	* Input	Recommended controller
1	OPT-SL03	2.6W@1A	3.5W@1A	OPT-DPA2005E
2	OPT-SL10	7.4W@0.7A	9.1W@0.7A	OPT-DPA2012E

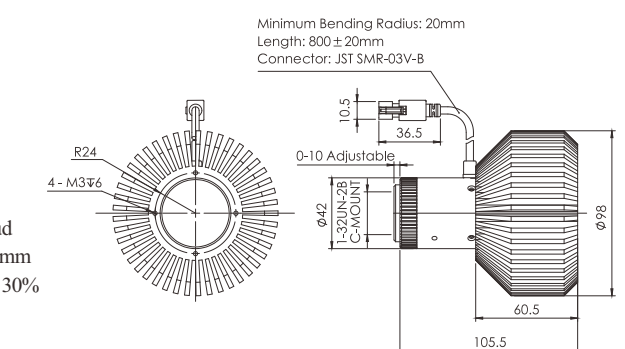
* Note: The data is for reference only.

Dimensions (mm)

1.OPT-SL03



2.OPT-SL10



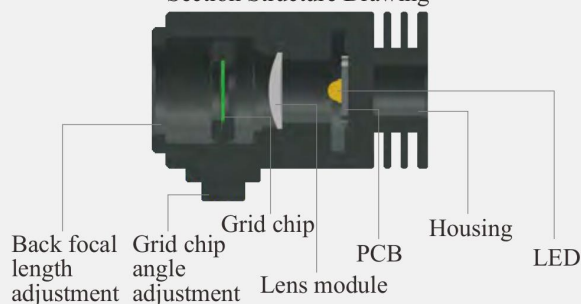
OPT-SLS Slant Structured Lights

Selection Guide

OPT-SLS03

- Power
- Slant structured light
- Brand name

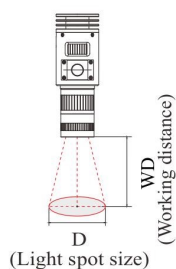
Section Structure Drawing



Lens and Spot Size

Lens Model	Working Distance (WD)						
	50mm	100mm	150mm	200mm	300mm	400mm	500mm
Light Spot Size (mm)							
OPT-C0825-5M	60	115	160	210	300	390	480
OPT-C1216-5M	45	75	105	140	205	270	335
OPT-C1614-5M	40	65	90	115	160	210	260
OPT-C2514-5M	20	35	45	65	95	125	160
OPT-C3514-5M	-	25	35	50	70	90	115

Above test data is obtained with OPT-SLS03 and OPT-SLS10 at zero grid chip angle.



Instructions



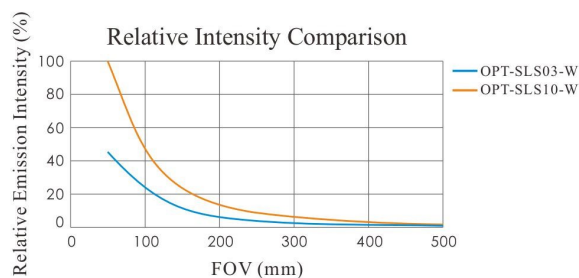
Only partial features can be focused when the grid chip is not adjusted.

All the features can be focused after adjusting the grid chip.
(Adjustment range: ≤ 45 degrees)

Model Table

No.	Model	* Input	* Input	Recommended controller
1	OPT-SLS03	2.6W@1A	3.5W@1A	OPT-DPA2005E
2	OPT-SLS10	7.4W@0.7A	9.1W@0.7A	OPT-DPA2012E

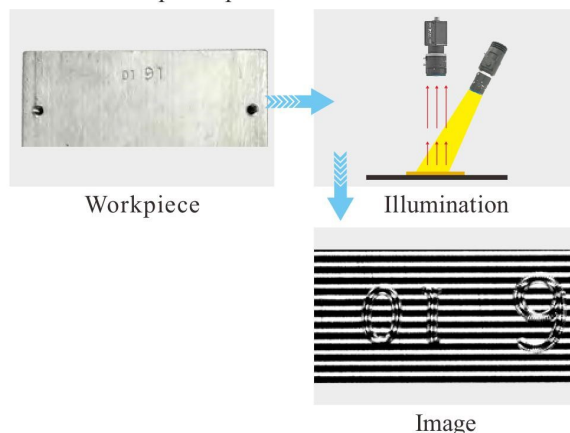
* Note: The data is for reference only.



Note: The test data is obtained at zero grid chip angle. It is for reference only.

Application Cases

Character depth inspection on metal surface



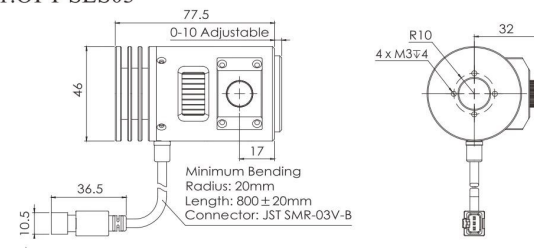
Illuminance

Model	Illuminance (Unit: 100 lx)	Model	Illuminance (Unit: 100 lx)
OPT-SLS03-R	100	OPT-SLS10-R	180
OPT-SLS03-G	90	OPT-SLS10-G	210
OPT-SLS03-B	130	OPT-SLS10-B	300
OPT-SLS03-W	250	OPT-SLS10-W	650

Note: The data is obtained with the 25mm focal length lens ($F\# = 1.4$, $WD = 100mm$) and no grid chip. It is for reference only.

Dimensions (mm)

1.OPT-SLS03



2.OPT-SLS10

