



Coaxial Lights / Line Lights with Coaxial System

LFV/LFV2 Series / LNV Series

Even illumination on reflective object surfaces

Bright, even illumination across the entire field of view makes on-axis illumination systems ideally suited for inspecting mirror-finish work for scratches etc.



LFV/LFV2/LFV2-CP Series

LFV2 / LFV2-CP Series Features

- The use of CCS's unique heat dissipating construction minimizes temperature increases due to the heat generation in LEDs, increasing the service life of the LED. (Refer to page 103.)

LFV/LFV2-CP Series Features

- The use of a half mirror with an anti-reflection coating eliminates ghost images.
- The viewing window is protected with optical glass, preventing dust entry.
- Coaxial lights with a lens mounting ring are available. These lights can be mounted directly to the threaded part of the lens commonly used for mounting a filter and are best suited for installation in confined places. (Available in M25.5, M27, and M30.5 models.)



LFV-34-M27

LNV-300

The LNV-300 provides coaxial drop illumination for line sensors. Chip LEDs are used to achieve ultra-even illumination.



LFV2-5 Series

LFV2-5 Series.

- The micro lens and illumination system are combined in one unit, making the system much easier to use than a separate illumination system combined with a standard f50 lens.
- The field of view can be adjusted by changing the macro lens on the lens barrel.



LFV2-5-5

Example of installation

*The camera is not a CCS product.

BGA Alignment Mark Inspection

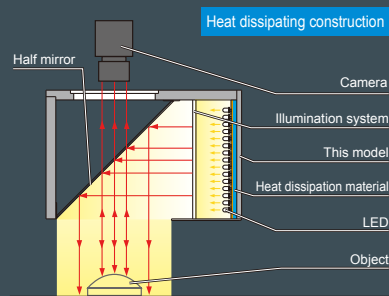


Magnification / Field of View

	Magnification	L	WD	1/3 inch sensor	1/2 inch sensor
LFV2-5-2	2.4 X	-	28mm or less	Field of View: 1.5mm	Field of View: 2mm
LFV2-5-5	1.1 X	0mm	45mm or less	Field of View: 3.2mm	Field of View: 4.2mm
	{	{	{	{	{
LFV2-5-12	3 X	70mm	23mm or less	Field of View: 1.2mm	Field of View: 1.6mm
	{	{	{	{	{
LFV2-5-12	1 X	0mm	22mm or less	Field of View: 3.5mm	Field of View: 4.6mm
	{	{	{	{	{
LFV2-5-12	0.4 X	20mm	53mm or less	Field of View: 9.3mm	Field of View: 12.2mm
	{	{	{	{	{

Illumination structure of LFV2-100

A half mirror aligns the diffused light from the LED array to the same optical axis as the lens.



Examples of Coaxial Light Images

Inspecting for Bearing Face Damage

Even small scratches are made clearly visible, using an on-axis illumination system.

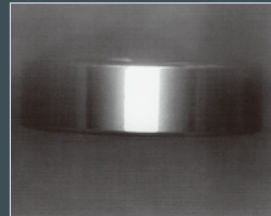
Light used: LFV2-70RD



Bearing Periphery Inspection

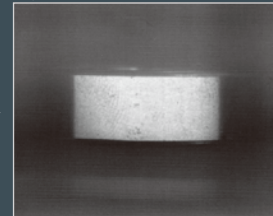
With standard coaxial illumination, the light is concentrated at the center of the illumination area.

Light used: LFV2-50RD



With the LNV-300, even luminance is achieved over a wide area.

Light used: LNV-300



Product Lineup Table

Series	Direct Number	Model Name	Color	Power Consumption	Option	Dimension
LFV2	1001995	LFV2-130RD	●	12V / 28W	P-L	8
	1002766	LFV2-130SW2	○	24V / 38W		
	1001993	LFV2-130BL	●	24V / 41W		
	1001994	LFV2-130GR	●			
	1002000	LFV2-200RD	●	24V / 42W	P-L	9
	1002767	LFV2-200SW2	○	24V / 46W		
	1001998	LFV2-200BL	●			
	1001999	LFV2-200GR	●			
LFV2-CP	1002034	LFV2-CP-13RD	●	12V / 0.9W	—	10
	1002762	LFV2-CP-13SW2	○	12V / 0.6W		
	1002032	LFV2-CP-13BL	●	12V / 0.7W		
	1002033	LFV2-CP-13GR	●			
	1002040	LFV2-CP-18RD	●	12V / 1.2W	—	11
	1002738	LFV2-CP-18SW2	○	24V / 1.6W		
	1002036	LFV2-CP-18BL	●			
	1002038	LFV2-CP-18GR	●			
	1002041	LFV2-CP-18RD-M27	●	12V / 1.2W	—	12
	1002042	LFV2-CP-18RD-M30	●			
LFV2-5	1002016	LFV2-5-2RD	●	12V / 1.2W	—	13
	1002020	LFV2-5-5RD	●	12V / 1.2W	—	14
	1002012	LFV2-5-12RD	●	12V / 1.2W	—	15
LNV	1002285	LNV-300	●	24V / 5.4W	—	16
	1002289	LNV-300-SW	○	24V / 10W		
	1002286	LNV-300-BL	●			
	1002288	LNV-300-GR	●			

*For further details on these options, refer to page 99 to 101.

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