



Vision Datum

Machine Vision LED Illumination

Machine Vision
Ring Illumination

ViSiON DATUM LIGHTS

The Leader and Innovator in Machine Vision Lighting



ABOUT US

Vision Datum as leading manufacturer of machine vision products in China, have almost 20 years in this industry, and the major products cover machine vision lighting / illumination, camera, lens, machine vision algorithms and storage software.

With abundant experience in industry application and scientific research, Vision Datum Machine Vision Led Illumination offer a wide range of selections, and we provide OEM / ODM customization for various lighting solutions, including but not limited to Line Scan Lights, Telecentric Lights, Ultraviolet and Infrared Lights , Waterproof and Anti-corrosion Lighs, and Multi-spectral Lights.

Vision Datum products have been exported to almost 100 countries and regions, and in thousands of projects have received countless affirmations and reputations. Vision Datum machine vision products are well-known as innovative, flexible, stable and easy to use, enabling reliable inspection in many applications.



BRIGHTER

Up to 10X brighter than normal lighting



BETTER

Extremely high-quality performance feedback, and the defect rate < 0.01%



COST-COMPETITIVE

Help our customers to save > 50% cost on lighting source



EXPERT

Leading designer and manufacturer of LED lighting solutions for any type of machine vision or automation camera application



FLEXIBILITY

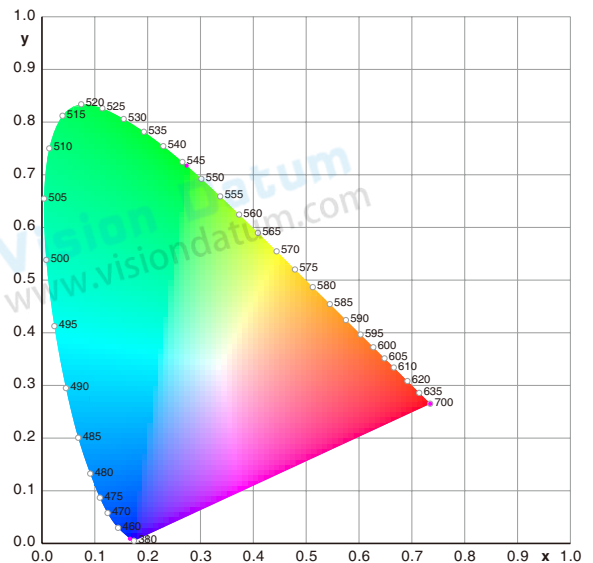
1 PC OEM / ODM available, including but not limited to IP67 / Anticorrosion requirement or IR / UV spectrum request

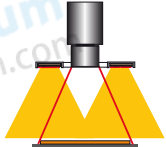
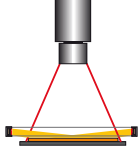
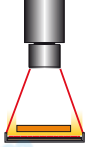
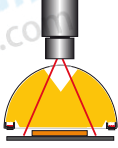
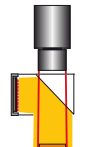
USEFUL INFORMATION

Color Wavelength

The durability of LEDs is on the upper area of the durability spectrum. The duration in which LED remains fully functional depends on the operating temperature and ambient temperature.

Vision Datum gives an extended guarantee on its LEDs. All housings, except some bar lights, are manufactured by high quality aluminum. Besides, the light intensity of all the lights can be regulated as well as flashed.



Illumination	Structure
Bright field illumination Light is aimed directly at an object, often creating distinct shadows. This type of light is effective when used on objects which requires high degrees of contrast, but will create specular reflections when used with shiny or reflective materials.	
Dark field illumination Light is projected at an angle to the surface, causing any variations to deflect light up into the camera, creating bright spots on a dark background or field. Nothing is seen by the vision system if there are no aberrations on the surface.	
Back illumination An even field of illumination is projected from behind an object, which is seen as a silhouette by the camera. Backlight is the most commonly used in taking measurements or determining part orientation.	
Diffuse illumination: (Dome/Tunnel) Reflected light, providing a non-directional, soft illumination free of harsh shadows, which is well suited for highly specular objects. This illumination effect is similar to the type of light found on an overcast day.	
Coaxial illumination: A variation of diffuse light in which light is aimed at an angled beam splitter that reflects the light down. The object is viewed from above through the beam splitter. This light type is particularly helpful on highly reflective objects or in situations where the area of inspection is obscured by shadows from its surroundings.	
Each light type has a specific purpose, but is also adaptable for a range of applications not immediately related to its function. For example, a spotlight, which provides bright field illumination, can be placed at an angle to create a dark field effect. For some applications, the best results are achieved by combining multiple light types.	

Low Angle Ring Illumination

LR Series

Features

- Lights create dark field of view, suitable for edge detection and scratches on glossy surface.
- High brightness LEDs are mounted on a flexible circuit board in a steep angle.
- Breakthrough wave-soldering technology to improve production quality and efficiency.

Applications

- Substrate and PCB positioning
- Chip component inspection
- LCD alignment
- Plastic container inspection
- Label inspection
- Mounter
- IC marking inspection, etc.

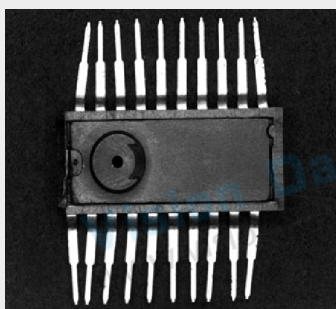


Examples of Low-Angle Ring Light Images

Lights: LR-7440-30R

Inspect IC pins flatness.

Use ring lights illuminated on the pins surface in a specific angle, can light the whole surface in white. Choose the black background. Substantial improved the contrast. Good for software detect.



Lights: LR-170134-20B

Inspect Power Plug Pins.

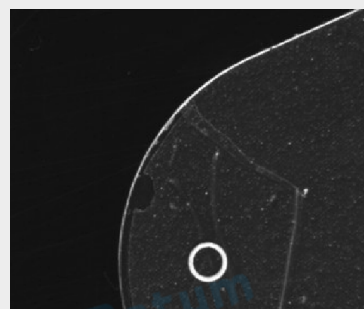
Use LR-100B to illuminate the pins, the top parts of the pins will be lighted and the reflection of the bottom part which will decrease the image contrast can be avoided.



Lights: LR-9660-00W

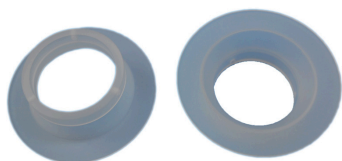
Inspect Mobile Touch Screen MARK Point.

The low angle lights can make the MARK point bright and avoid the light-reflecting problem on the surface caused by high angle lights. Thus the whole field of view is in high contrast which is easier for the computer analysis.



Optional Accessory: Diffusion Plate

Used to create a relatively non-directional light. Reducing glare on specular surfaces.



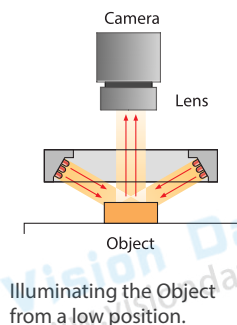
Explanation of Model Code

VT-LT2-LR	4822	-30	(W/B/G/R)
Series	O.D./I.D.	Angle*	Color

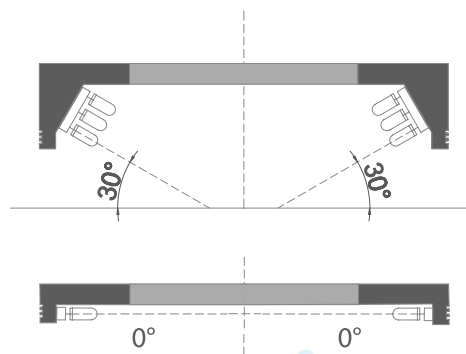
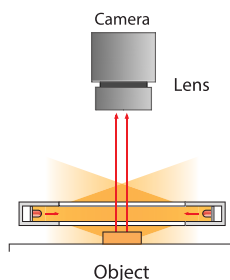
*The emission angle refers to the angle between light and horizontal plane.

Illumination Structure

LR Series



LRXXX-0 Series



Common Specifications

Input voltage	24 VDC
Wavelength range	Red: 620-630nm; Blue: 460-475nm; Green: 520-530nm;
Color temperature (white)	6500-8500K
Operating environment (indoor)	Temperature: 0~40℃ Humidity: 20% to 85% RH (with no condensation)
Life time	White:30,000hrs, Red: 60,000hrs (Depends on the operating environment, not a gurantee)
Case material	Aluminum alloy, Resin

Model No.	Optical spec.	Working Distance	Electrical specifications (NIR / UV Accept custom)			Dimensions		
	Emission angle (deg)	Recommended WD (mm)	Supply Voltage (v)	Power cons. (w)	Power cons. (w)	Outer diam. (mm)	Inner diam. (mm)	Height (mm)
VT-LT2-LR5024-30	30°	5	24	2.0	2.6	50	24	16
VT-LT2-LR6630-30	30°	0-10	24	3.2	4.6	66	30	22
VT-LT2-LR7448-30	30°	9-14	24	3.2	4.2	74	48	19
VT-LT2-LR10070-30	30°	12-21	24	7.9	8.3	100	70	22
VT-LT2-LR12088-30	30°	17-27	24	8.4	10.5	120	88	22
VT-LT2-LR13296-15	15°	3-12	24	10.0	12.2	132	96	22
VT-LT2-LR150120-30	30°	15-29	24	14.3	18.5	150	120	22
VT-LT2-LR180132-30	30°	24-34	24	15.0	28.8	180	132	29
VT-LT2-LR208172-25	25°	31-41	24	17.8	18.0	208	172	22

Zero Angle Ring Illumination

VT-LT2-LR5018-0	0°	0-10	24	1.6	1.6	50	18	9.8
VT-LT2-LR7547-0	0°	0-10	24	1.5	2.0	75	47	9.8
VT-LT2-LR9660-0	0°	0-10	24	4.6	5.5	96	60	9.8
VT-LT2-LR12086-0	0°	0-10	24	4.8	4.8	120	86	9.8
VT-LT2-LR146104-0	0°	0-10	24	5.5	8.8	146	104	9.8
VT-LT2-LR176148-0	0°	0-10	24	8.8	11.0	176	148	9.8
VT-LT2-LR206164-0	0°	0-10	24	11.0	13.8	206	164	9.8

Dimension (mm)

VT-LT2-LR5024-30 	VT-LT2-LR6630-30 	VT-LT2-LR7448-30 	VT-LT2-LR10070-30
VT-LT2-LR12088-30 	VT-LT2-LR13296-15 	VT-LT2-LR150120-30 	VT-LT2-LR180132-30
VT-LT2-LR208172-25 	VT-LT2-LR5018-0 	VT-LT2-LR7547-0 	VT-LT2-LR9660-0
VT-LT2-LR12086-0 	VT-LT2-LR146104-0 	VT-LT2-LR176148-0 	VT-LT2-LR206164-0

Overview

Light Controller Collection



Model	Drive Mode	Input Voltage	Output Voltage	Power	Output Current	Channel	Output Port	Adapt to line light
Digital Controller								
VT-LT4-0506PWDC-2	Constant Current	88V-264V	5V	Total:6W/Single :3W Expandable: Total:12W/Single:6W	/	2	SMP-03V	
VT-LT4-2420PWDC-2	Constant Voltage	88V-264V	24V	Total:20W Single:20W	/	2	SMP-03V	
VT-LT4-2460PWDC-4	Constant Voltage	88V-264V	24V	Total:60W Single:25W	/	4	SMP-03V	
VT-LT4-24150PWDC-4	Constant Voltage	88V-264V	24V	Total:150W Single:70W	/	4	SMP-03V	
VT-LT3-24240PWDC-2	Constant Current	100V-120V(Ver.A) 200V-240V(Ver.B)	24V	240W	Total:10A Single:10A	2	19M-5	✓
VT-LT3-24500PWDC-2	Constant Voltage	100V-240V	24V	480W	Total:20A Single:light 9A, fan 1A	2	19M-2E	
VT-LT4-48300PWDC-1	Constant Current	90V-264V	48V	300W	0-6A	1	-	
Stroboscopic Controller (With Brightening Module)								
VT-LT3-PLU24120-4	Constant Voltage	100V-240V	48V	120W	10A(Instantaneous Value)	4	SMP-03V-BC	
VT-LT3-PLU24200-2	Constant Voltage	100V-240V	48V	200W	50A(Instantaneous Value)	2	12M-2	
VT-LT3-PLU24200-4	Constant Voltage	100V-240V	48V	200W	25A(Instantaneous Value)	4	SMP-03V-BC	
Line Source Stroboscopic Controller (With Brightening Module)								
VT-LT3-PLU481000LI-6	Constant Voltage	100V-240V	48V	1000W	Total:25A Single:25A	6	16M-2	✓
Line Source Controller								
VT-LT3-24300PWLIN-1	Constant Voltage	100V-240V	24V	≤ 300W	12.5A	1	AM20K4Z	✓
VT-LT3-48600PWLIN-2	Constant Current	100V-120V(Ver.A) 200V-240V(Ver.B)	48V	600W	Total:12A Single:6A	2	19M-6	✓
VT-LT3-48600PWLIN-1	Constant Current	100V-120V(Ver.A) 180V-240V(Ver.B)	48V	≤ 600W	Total:12A Single:6A	1	19M-6	✓
VT-LT3-48300PWLIN-2	Constant Current	100V-240V	48V	≤ 300W	Total:6A Single:6A	2	16M-6	✓
VT-LT3-48600PWLIN-2	Constant Current	180V-240V	48V	≤ 600W	Total:12A Single:6A	2	19M-6	✓
VT-LT3-48800PWLIN-1	Constant Current	100V-240V	48V	< 800W	14A	1	19M-6	✓
VT-LT3-48800PWLIN-2	Constant Current	100V-240V	48V	≤ 800W /Single ≤ 400W	14A	2	19M-6	✓
VT-LT3-481200PWLIN-1	Constant Current	100V-240V	48V	≤ 1200W	Total:24A Single:12A	1	19M-6	✓
Analog Controller								
VT-LT4-0506PWAC-2	Constant Current	88V-264V	5V	Total:6W Single:3W	/	2	SMP-03V	
VT-LT3-2460PWAC-4	Constant Voltage	100V-240V	24V	60W	Total:2.5A Single:2.5A	4	SMP-03V-BC	

Note: Default -Ver.B version voltage

2024

HOT PRODUCTS

Infrared Series Camera

- ◇ Near-Infrared(NIR) Industrial Cameras: 300-1100nm
- ◇ Short-Wave(SWIR) Industrial Cameras: 400-1800nm
- ◇ Cooled Mid-Wave Infrared(MWIR) Cameras: 1500-5200nm
- ◇ Long-Wave Infrared(LWIR) Industrial Cameras: 8000-14000nm



NIR



SWIR



MWIR



LWIR

High-Speed Camera

- ◇ 10GigE, SDI
- ◇ 1000 ~ 1000000 FPS



iSpeedy SE Series •



• iSpeedy Series

Vision And More Available

让工业更智能，让视觉更简单！



SWIR Camera
Industrial Camera



Macro Lens
Industrial Lens



Microscope



System Solution
No-programming Software



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