

CONTRASTECH

Machine Vision LED Illumination

**Machine Vision
LED illumination**

CONTRASTTECH LIGHTS

The Leader and Innovator in Machine Vision Lighting



ABOUT US

Contrasttech 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, Contrasttech 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 Lights, and Multi-spectral Lights.

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

- B**
BRIGHTER
Up to 10X brighter than normal lighting
- B**
BETTER
Extremely high-quality performance feedback, and the defect rate < 0.01%
- C**
COST-COMPETITIVE
Help our customers to save > 50% cost on lighting source
- E**
EXPERT
Leading designer and manufacturer of LED lighting solutions for any type of machine vision or automation camera application
- F**
FLEXIBILITY
1 PC OEM / ODM available, including but not limited to IP67 / Anticorrosion requirement or IR / UV spectrum request

CONTENTS

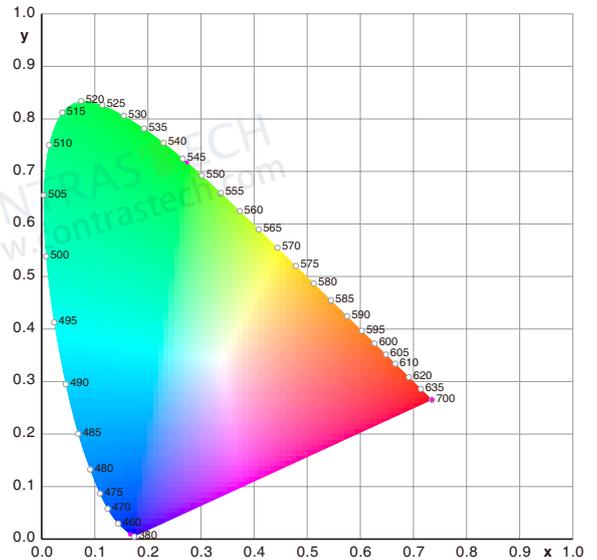
	<p>Line illumination P2-P11</p> <p>Li/LiN+ High Brightness P2-P5</p> <p>LiC Coaxial Line Scan P6</p> <p>LiO/LiT Polarized Line Scan P7-P10</p> <p>MLi Multi-Line Scan P11</p>		<p>Shadowless Square illumination MT Series P50-P51</p>
	<p>Bar illumination HL/HL+/HLDM Series P12-P17</p>		<p>Tunnel shadowless illumination T Series P52-P53</p>
	<p>High Angle Ring illumination HR /HR+ Series P18-P22</p>		<p>Three-color illumination AOI Series P54-P55</p>
	<p>Low Angle Ring illumination LR Series P23-P25</p>		<p>Multi-Spectrum illumination MSR Series P56</p>
	<p>Bottom Flat Backlights illumination BF/BFC Series P26-P33</p>		<p>Spot illumination PI Series P57</p>
	<p>Side Flat Backlights illumination BFP/BFCP/BFCK Series P34-P35</p>		<p>Fiber LED Lights Source Unit CO Series P58</p>
	<p>Coaxial illumination C/CPL/CX Series P36-P42</p>		<p>Telecentric illumination TI Series P59-P61</p>
	<p>Dome illumination DM Series P43-P44</p>		<p>UV/IR Illumination P62</p>
	<p>Shadowless Ring illumination WR/LWR/GWR Series P45-P49</p>		<p>Waterproof/Anti-corrosion Illumination P63</p>
			<p>Light Controller Collection P64</p>

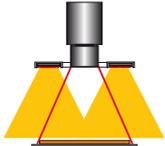
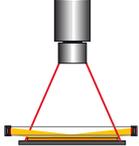
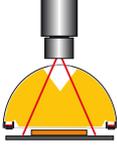
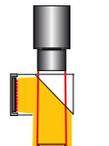
USEFUL INFORMATION

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 alumium. Besides, the light intensity of all the lights can be regulated as well as flashed.



Illumination	Structure
<p>Bright field illumination</p> <p>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.</p>	
<p>Dark field illumination</p> <p>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.</p>	
<p>Back illumination</p> <p>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.</p>	
<p>Diffuse illumination: (Dome/Tunnel)</p> <p>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.</p>	
<p>Coaxial illumination:</p> <p>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.</p>	
<p>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.</p>	

Line Scan Illumination Li Series

Features

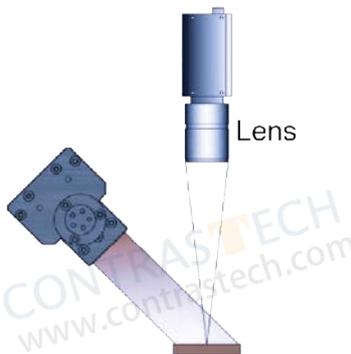
- Converging lights with optics cylindrical lens to reduce diffusion
- The width of emitting surface is variable as the distance between LED board and lens is adjustable.
- Light color, cooling method and emitting surface length can be customized according to request. The emitting surface length is specified in 100mm increments, up to 3000mm.

Applications

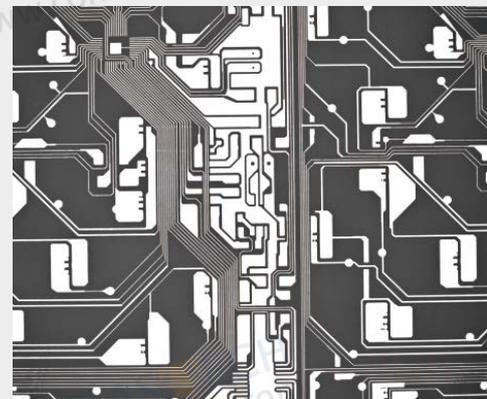
- Inspection of LCD, TP screen, LTO circuit, PCB circuit, medicine and food packaging, defects of printing surface on the assembly line, etc..
- Appearance inspection of food or medicine



Illumination Structure



Examples of Li Light Images



Common Specifications

Input voltage	24 VDC
Connector	20M-4J \ 20J4TQ \ AOPULO
Polarity	1: (-), 2: (-) ,3: (+), 4:(+)
Cable length	500 mm
Auxiliary module	VT-LT3-PiC Kit
Operating environment (indoor)	Temperature: 0~40°C 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

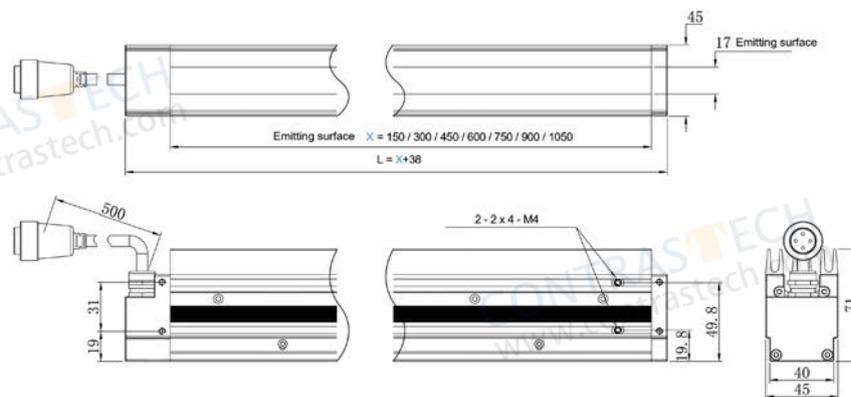
Explanation of Model Code

VT-LT3-Li	100	(W/B/G/R)
Series	Emitting Length	Color

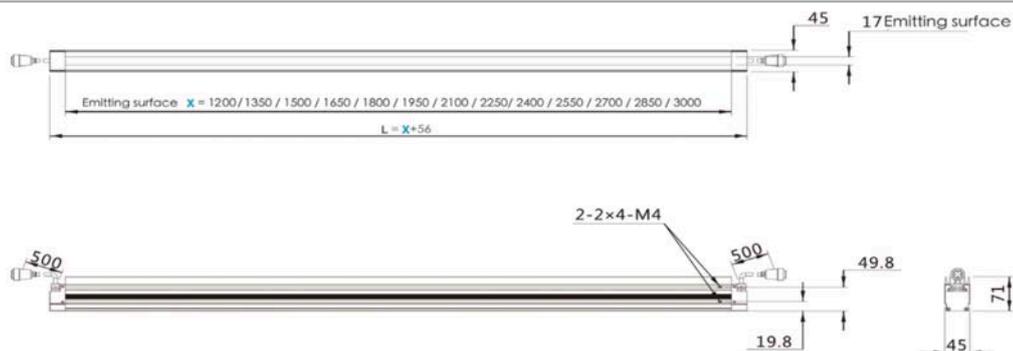
Model No.	Optical spec.		Electrical specifications (GREEN / NIR / UV Accept custom)			Dimensions		
	Length (mm)	Width (mm)	Supply Voltage (v)	Power cons. (w) ●	Power cons. (w) ● ○ ●	Length (mm)	Width (mm)	Height (mm)
VT-LT3-Li150	150	17	24	15.4	23.1	188	45	71
VT-LT3-Li300	300	17	24	30.8	46.1	338	45	71
VT-LT3-Li450	450	17	24	46.1	69.2	488	45	71
VT-LT3-Li600	600	17	24	61.5	92.2	638	45	71
VT-LT3-Li750	750	17	24	76.8	115.2	788	45	71
VT-LT3-Li900	900	17	24	92.2	138.3	938	45	71
VT-LT3-Li1050	1050	17	24	107.6	161.3	1088	45	71
VT-LT3-Li1200	1200	17	24	122.9	184.4	1256	45	71
VT-LT3-Li1350	1350	17	24	138.3	207.4	1406	45	71
VT-LT3-Li1500	1500	17	24	153.6	230.5	1556	45	71
VT-LT3-Li1650	1650	17	24	168.9	253.4	1706	45	71
VT-LT3-Li1800	1800	17	24	184.3	276.4	1856	45	71
VT-LT3-Li1950	1950	17	24	199.6	299.5	2006	45	71
VT-LT3-Li2100	2100	17	24	215.0	322.5	2156	45	71
VT-LT3-Li2250	2250	17	24	230.4	345.6	2306	45	71
VT-LT3-Li2400	2400	17	24	245.7	368.6	2456	45	71
VT-LT3-Li2550	2550	17	24	261.1	391.6	2606	45	71
VT-LT3-Li2700	2700	17	24	276.4	414.7	2756	45	71
VT-LT3-Li2850	2850	17	24	291.8	437.7	2906	45	71
VT-LT3-Li3000	3000	17	24	307.2	460.8	3056	45	71

Dimension

VT-LT3-Li150-1050



VT-LT3-Li1200-3000



Line Scan Illumination

LiN + Series

Features

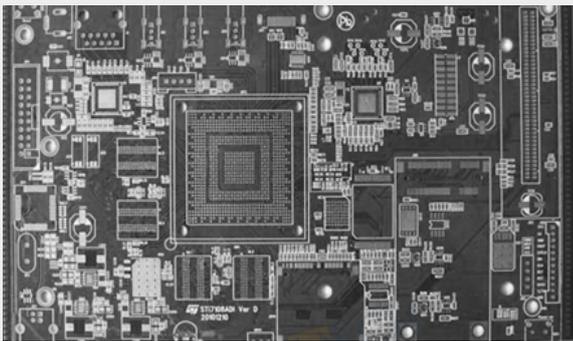
- With high power LEDs, the light intensity is times higher than standard one.
- Aluminum housings ensure an optimal heat dissipation and dispose of various practical mounting possibilities.

Applications

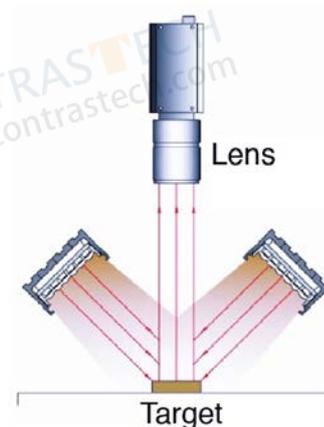
- Inspection of LCD, TP screen, LTO circuit, PCB circuit, medicine and food packaging, defects of printing surface on the assembly line, etc..
- Appearance inspection of food or medicine



Examples of LiN+ Series Images



Illumination Structure



Common Specifications

Input voltage	48 VDC
Connector	ZHQCN-19M-6H
Polarity	1:(Light source +), 2: (Light source -), 3:(Fan +), 4:(Fan -), 5:(R +), 6:(R -)
Cable length	/
Auxiliary module	VT-LT3-PiC+ Kit
Operating environment (indoor)	Temperature: 0~40°C 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

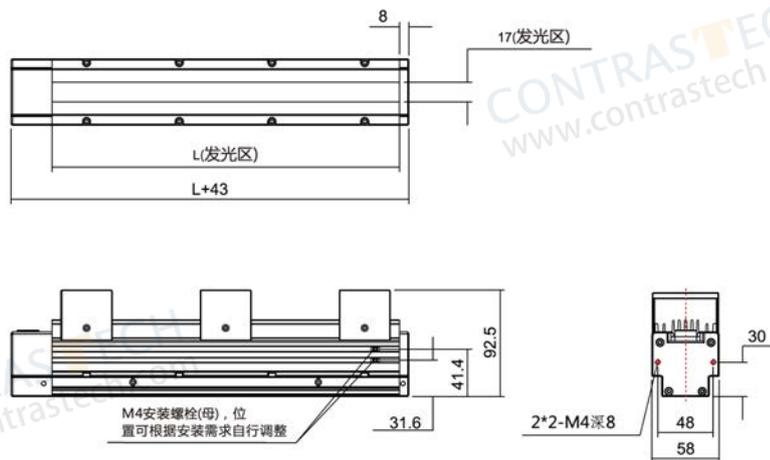
Explanation of Model Code

VT-LT3-LiN+	100
Series	Emitting Length

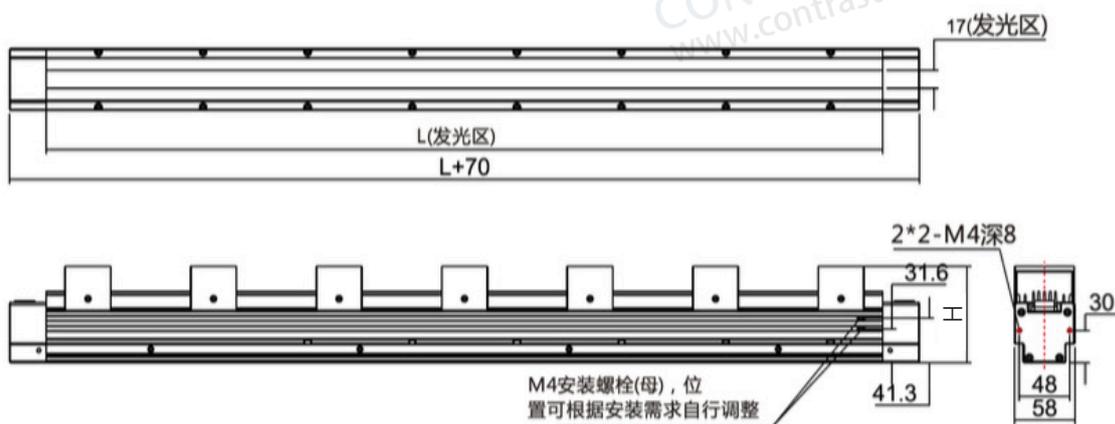
Model No.	Optical spec.		Electrical specifications (GREEN / NIR / UV Accept custom)		Dimensions		
	Light Area		Supply Voltage (v)	Power cons. (w) ● ○ ●	Length (mm)	Width (mm)	Height (mm)
	Length (mm)	Width (mm)					
VT-LT3-LiN+100	100	17	48	-	143	58	90.1
VT-LT3-LiN+168	168	17	48	48	211	58	101.6
VT-LT3-LiN+200	200	17	48	-	243	58	90.1
VT-LT3-LiN+300	300	17	48	96	343	58	92.5
VT-LT3-LiN+400	400	17	48	129.6	443	58	92.5
VT-LT3-LiN+500	500	17	48	172.8	543	58	92.5
VT-LT3-LiN+600	600	17	48	216	643	58	92.5
VT-LT3-LiN+650	650	17	48	259.2	693	58	90.1
VT-LT3-LiN+700	700	17	48	-	770	58	90.1
VT-LT3-LiN+800	800	17	48	336	870	58	90.1
VT-LT3-LiN+900	900	17	48	384	970	58	90.1
VT-LT3-LiN+1000	1000	17	48	393.6	1070	58	90.1
VT-LT3-LiN+1100	1100	17	48	432	1170	58	90.1
VT-LT3-LiN+1200	1200	17	48	480	1270	58	90.1
VT-LT3-LiN+1800	1800	17	48	518.4	1870	58	90
VT-LT3-LiN+2200	2200	17	48	778	2270	58	90
VT-LT3-LiN+3400	3400	17	48	952	3470	-	91

Dimension

VT-LT3-LiN+100-650



VT-LT3-LiN+700-3400



H=Height

Coaxial accessories for Line Scan Illumination

LiC / LiC+ Kit

Features

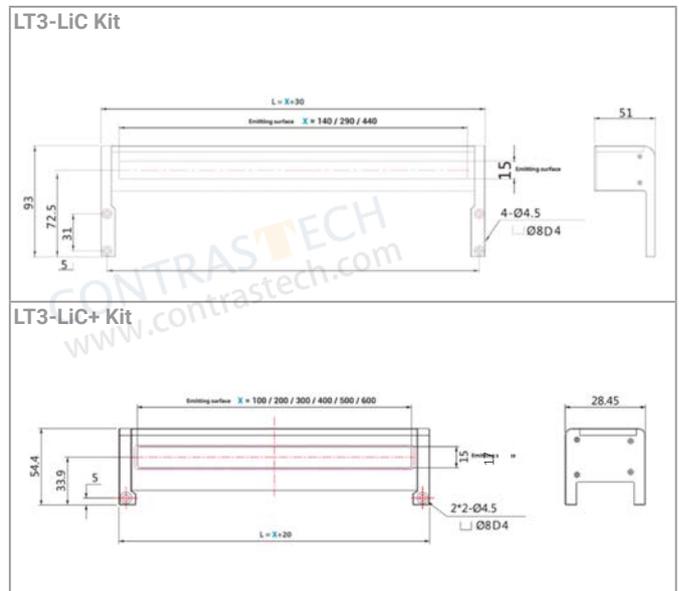
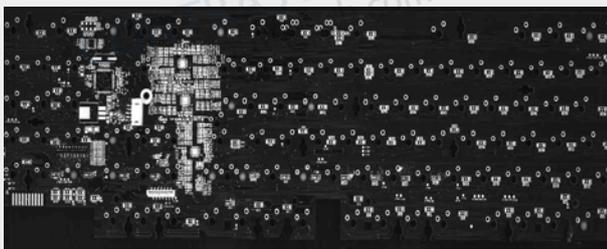
- Coaxial function suite, realize the characteristic of line light source coaxial.
- Match Li or Li+ series line light source to use.

Applications

- PCB detection, flexible circuit board or copper foil detection
- Shadow elimination of large area circuit board fluctuant device



Examples of Li+ & LiC Kit Light Images



Explanation of Model Code

VT-LT3-PiC / LiC+ Kit	-	100
Series		Emitting Length

Model No.	Optical spec.		Electrical specifications			Dimensions		
	Length (mm)	Width (mm)	Supply Voltage (v)	Power cons. (w)	Power cons. (w)	Length (mm)	Width (mm)	Height (mm)
VT-LT3-LiC140	140	15	48	15.4	23.1	170	51	93
VT-LT3-LiC290	290	15	48	30.8	46.1	320	51	93
VT-LT3-LiC440	440	15	48	46.1	69.2	470	51	93
VT-LT3-LiC+100	100	17	48	48	48	120	28.45	54.4
VT-LT3-LiC+200	200	17	48	96	96	220	28.45	54.4
VT-LT3-LiC+300	300	17	48	129.6	129.6	320	28.45	54.4
VT-LT3-LiC+400	400	17	48	172.8	172.8	420	28.45	54.4
VT-LT3-LiC+500	500	17	48	216	216	520	28.45	54.4
VT-LT3-LiC+600	600	17	48	259.2	259.2	620	28.45	54.4



LT3-Li+ With LT3-LiC-Kit

Oblique Line Illumination (Single/Double Oblique) LiO / LiT

Applications

- Detection of wrinkles and unevenness on the surface of sheet objects
- Scratch detection of transparent films
- Scratch detection of glass panels
- Damage detection on metal surfaces, etc.



Features

- The unique optical design uses a Fresnel lens to achieve oblique light illumination, which can flexibly respond to the requirements of different illumination directions.
- Wrinkles and unevenness on objects that diffuse light, such as paper and non-woven fabrics, can be easily detected in the conveying direction of the production line.
- The patented thermal management platform uses natural cooling to easily achieve 3 million LUX illumination, effectively increasing the service life of the light source.
- The structure design can be doubled, the length can be up to 4800mm, and there is no light spot gap.

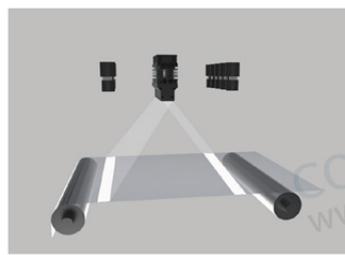
Explanation of Model Code

VT-LIO/T***-Z/F/Q/S						
VT-LI	O/T	***	Z	F	Q	S
Series	Single Oblique/ Double Oblique	Luminous surface length	Natural cooling <i>(Recommended)</i>	Forced air cooling	Air cooling	Water cooling

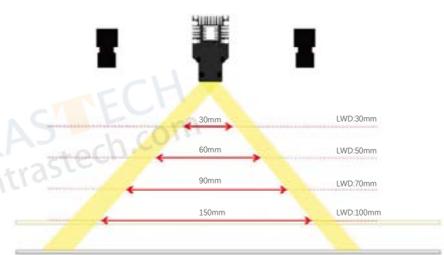
Schematic diagram of single oblique irradiation



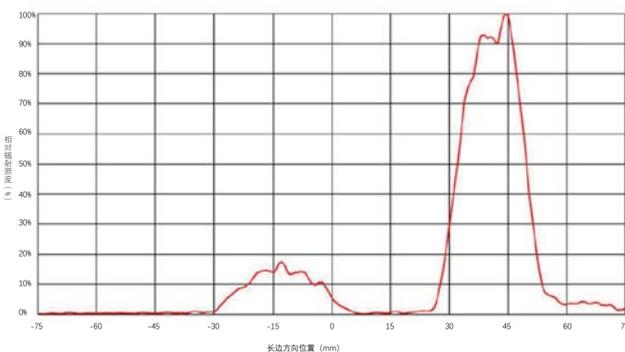
Schematic diagram of double oblique irradiation



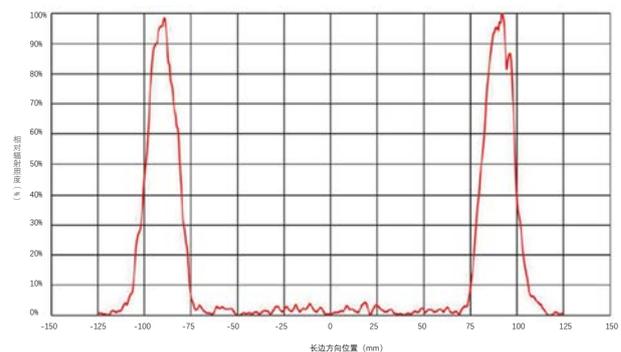
Schematic diagram of double oblique irradiation range



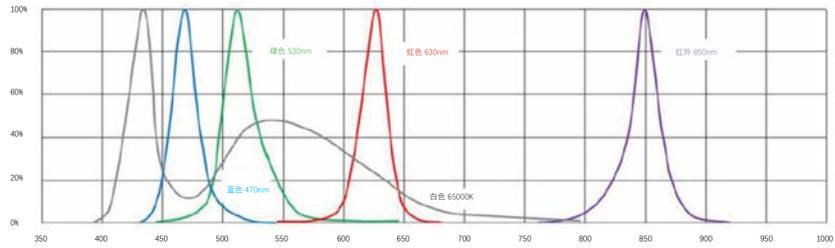
Schematic diagram of single-oblique light distribution



Schematic diagram of double oblique light distribution



Uniformity / Relative Irradiance



Remark: 1. Infrared series products are customized products, with optional wavelengths: 850nm, 940nm, 1050nm, 1350nm, 1450nm;

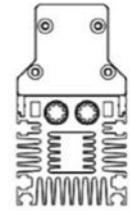
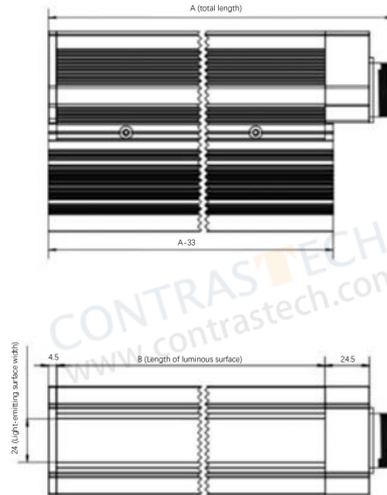
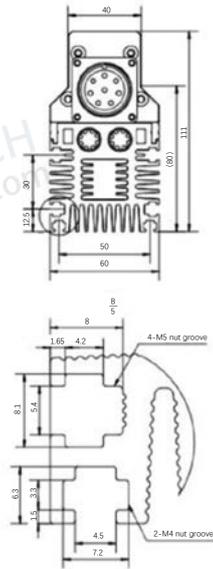
2. The data is for reference only, please refer to the actual data.

Model No.	Light Area		Luminous Surface Size		Illuminance (Ten Thousand Lx)	Power Consumption (W/24v)	Cooling Method	Weight (kg)
	Length(mm)	Width(mm)	Length(mm)	Width(mm)				
VT-LIO/T150-Z/F/Q/S	193	60	151	24	300	42	Natural Cooling	1.36
					500	70	Forced Air Cooling	
					800	112	Air Cooling	
					1000	140	Water Cooling	
VT-LIO/T300-Z/F/Q/S	343	60	301	24	300	84	Natural Cooling	2.58
					500	140	Forced Air Cooling	
					800	224	Air Cooling	
					1000	280	Water Cooling	
VT-LIO/T450-Z/F/Q/S	493	60	451	24	300	126	Natural Cooling	3.80
					500	210	Forced Air Cooling	
					800	336	Air Cooling	
					1000	420	Water Cooling	
VT-LIO/T600-Z/F/Q/S	643	60	601	24	300	168	Natural Cooling	5.02
					500	280	Forced Air Cooling	
					800	448	Air Cooling	
					1000	560	Water Cooling	
VT-LIO/T750-Z/F/Q/S	793	60	751	24	300	210	Natural Cooling	6.25
					500	350	Forced Air Cooling	
					800	560	Air Cooling	
					1000	700	Water Cooling	
VT-LIO/T900-Z/F/Q/S	943	60	901	24	300	252	Natural Cooling	7.46
					500	420	Forced Air Cooling	
					800	672	Air Cooling	
					1000	840	Water Cooling	
VT-LIO/T1050-Z/F/Q/S	1093	60	1051	24	300	294	Natural Cooling	8.60
					500	490	Forced Air Cooling	
					800	784	Air Cooling	
					1000	980	Water Cooling	
VT-LIO/T1200-Z/F/Q/S	1243	60	1201	24	300	336	Natural Cooling	10.00
					500	560	Forced Air Cooling	
					800	896	Air Cooling	
					1000	1120	Water Cooling	
VT-LIO/T1500-Z/F/Q/S	1543	60	1501	24	300	420	Natural Cooling	12.50
					500	700	Forced Air Cooling	
					800	1120	Air Cooling	
					1000	1400	Water Cooling	
VT-LIO/T1800-Z/F/Q/S	1843	60	1801	24	300	504	Natural Cooling	14.80
					500	840	Forced Air Cooling	
					800	1344	Air Cooling	
					1000	1680	Water Cooling	

Model No.	Light Area		Luminous Surface Size		Illuminance (Ten Thousand Lx)	Power Consumption (W/24v)	Cooling Method	Weight (kg)
	Length(mm)	Width(mm)	Length(mm)	Width(mm)				
VT-LIO/T2100-Z/F/Q/S	2143	60	2101	24	300	588	Natural Cooling	17.30
					500	980	Forced Air Cooling	
					800	1568	Air Cooling	
					1000	1960	Water Cooling	
VT-LIO/T2400-Z/F/Q/S	2443	60	2401	24	300	672	Natural Cooling	19.80
					500	1120	Forced Air Cooling	
					800	1792	Air Cooling	
					1000	2240	Water Cooling	
VT-LIO/T2700-Z/F/Q/S	2743	60	2701	24	300	756	Natural Cooling	22.10
					500	1260	Forced Air Cooling	
					800	2016	Air Cooling	
					1000	2520	Water Cooling	
VT-LIO/T3000-Z/F/Q/S	3043	60	3001	24	300	840	Natural Cooling	24.60
					500	1400	Forced Air Cooling	
					800	2240	Air Cooling	
					1000	2800	Water Cooling	
VT-LIO/T3300-Z/F/Q/S	3343	60	3301	24	300	924	Natural Cooling	27.00
					500	1540	Forced Air Cooling	
					800	2464	Air Cooling	
					1000	3080	Water Cooling	
VT-LIO/T3600-Z/F/Q/S	3643	60	3601	24	300	1008	Natural Cooling	29.50
					500	1680	Forced Air Cooling	
					800	2688	Air Cooling	
					1000	3360	Water Cooling	
VT-LIO/T3900-Z/F/Q/S	3943	60	3901	24	300	1092	Natural Cooling	31.80
					500	1820	Forced Air Cooling	
					800	2912	Air Cooling	
					1000	3640	Water Cooling	
VT-LIO/T4200-Z/F/Q/S	4243	60	4201	24	300	1176	Natural Cooling	34.50
					500	1960	Forced Air Cooling	
					800	3136	Air Cooling	
					1000	3920	Water Cooling	
VT-LIO/T4500-Z/F/Q/S	4543	60	4501	24	300	1260	Natural Cooling	36.60
					500	2100	Forced Air Cooling	
					800	3360	Air Cooling	
					1000	4200	Water Cooling	
VT-LIO/T4800-Z/F/Q/S	4843	60	4801	24	300	1344	Natural Cooling	39.10
					500	2100	Forced Air Cooling	
					800	3584	Air Cooling	
					1000	4480	Water Cooling	

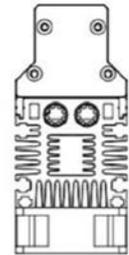
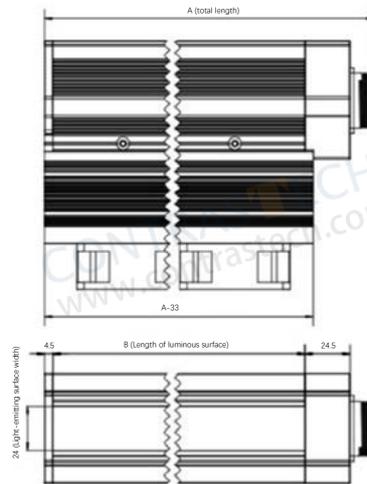
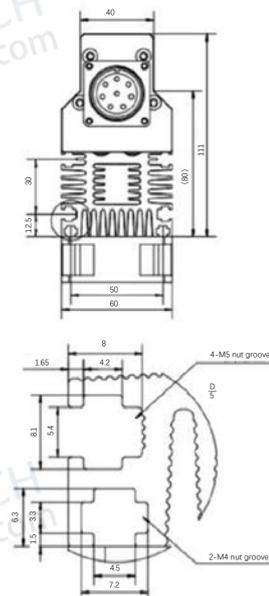
Outline Dimension Drawing(mm)

Natural cooling dimensions



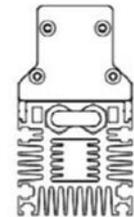
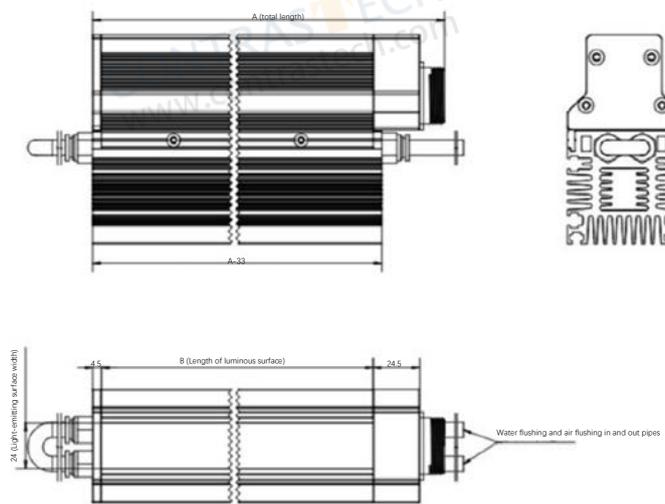
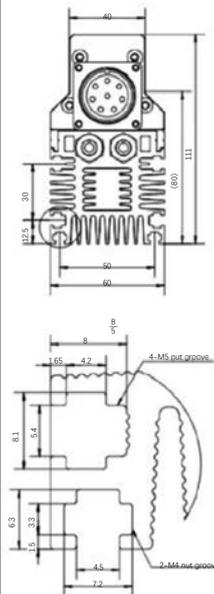
B (light-emitting surface length) is an integer multiple of 150mm + 1mm, length range: 151mm-4801mm;
 A (total length) is (B+42) mm!
 Note: When the length of the luminous surface is 2401mm-4801mm, it appears at both ends

Air cooling dimensions



B (light-emitting surface length) is an integer multiple of 150mm + 1mm, length range: 151mm-4801mm;
 A (total length) is (B+42) mm!
 Note: When the length of the luminous surface is 2401mm-4801mm, it appears at both ends

Dimensional drawings of air-cooling and water-cooling



B (light-emitting surface length) is an integer multiple of 150mm + 1mm, length range: 151mm-4801mm;
 A (total length) is (B+42) mm!
 Note: When the length of the luminous surface is 2401mm-4801mm, it appears at both ends

Multi-Angle Line Scan Illumination MLi Series

Features

- characteristic
- Brightness up to 1 million LUX.
- The angle can be adjusted to suit different needs.
- Multiple groups of highly concentrated light beams from different angles are focused on the same point to achieve multi-angle light effects.

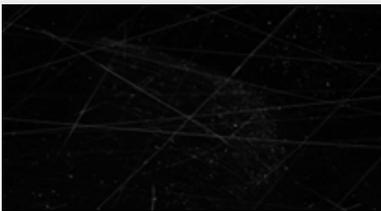
Applications

- Glass surface defect detection
- Phone screen scratch detection
- PCB substrate inspection

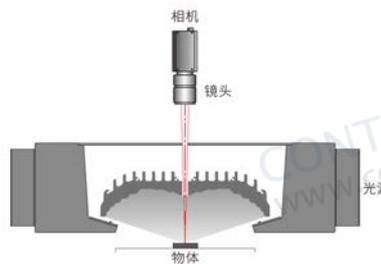


Examples of MLi Light Images

Silicon substrate scratch detection
Partial image of imaging effect



Illumination Structure



Explanation of Model Code

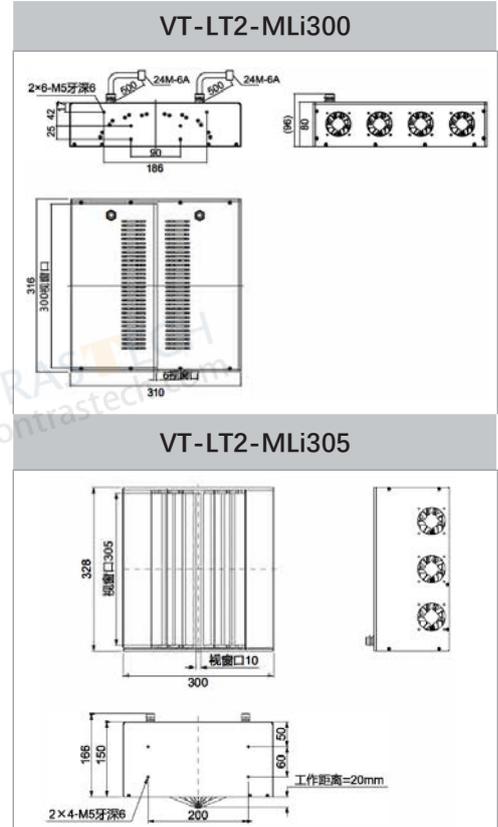
VT-LT2-MLi	300
Series	Emitting Length

Dimension

Common Specifications

Input voltage	48 VDC
Wavelength range	Red: 620-630nm; Blue: 465-475nm; Green: 515-530nm; White: 6000-10000K(ColorTemperature)
line length	Standard length 485±15mm, optional 1/2/3 meter long wire
Operating environment (indoor)	Temperature: 0~40°C Humidity:20% to 85% RH (with no condensation)
Life time	White:30,000hrs, Red: 60,000hrs (Depends on the operating environment, not a gurantee)

Model No.	Optical spec.		Electrical specifications		Dimensions		
	Length (mm)	Width (mm)	Supply Voltage (v)	Power cons.(w)	Length (mm)	Width (mm)	Height (mm)
VT-LT2-MLi300	300	6	48	576	316	310	80
VT-LT2-MLi305	305	10	48	241.92	328	300	150



Bar Illumination HL Series

Features

- Standard mold and stitching installation ensured structure stability.
- Special optical lenses equipped to concentrate the ray.
- In addition to available models, the bar lights with various sizes or colours can be customized easily according to request.

Applications

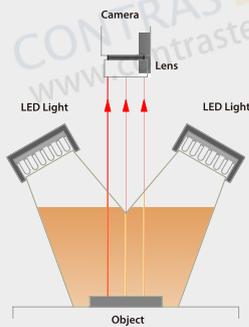
- IC marking inspection, inspection of components on glass substrates
- Dirt inspection on cap sides and inside surfaces
- Wafer appearance inspection
- Solder inspection and connector pitch inspection
- Inspection, etc. of BGA, QFP, etc.



Detail Drawing



Illumination Structure

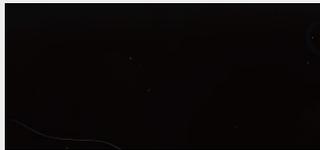


Examples of Bar Light Images

Lights: HL7426W

Inspect PCB printing characters.

Can check the object whose surface is smooth and glossy. Meet the needs overcome the reflective surface and highlight the surface details. The bar lights to illuminate from side can solve the light reflecting problem.



Lights: HL-8015B

Inspect bar code on cigarette box.

The surface is very smooth and reflect light. Needs to overcome the reflective surface and highlight the details. Choose this bar light to illuminate object from side can solve can Light-reflecting.



Common Specifications

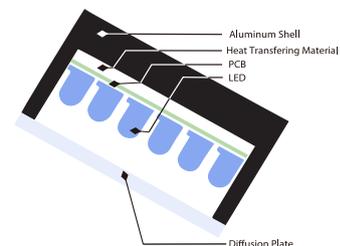
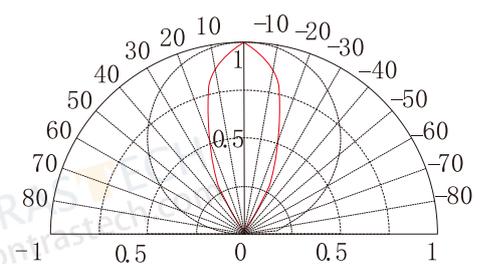
Input voltage	24 VDC
Connector	SMR-03V-B
Wavelength range	Red: 620-630nm; Blue: 465-475nm; Green: 515-530nm; White: 6000-10000K(ColorTemperature)
Cable length	500 mm
Optional Accessory	Diffusion plate, Polarizing plate. DC extension cable: 1m/2m/3m
Operating environment (indoor)	Temperature: 0~40°C Humidity:20% 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

Optional Accessory: Diffusion Plate

To be mounted in front of the LED lighting. Used to soften the lighting output, so as to reduce the glares on specular surface.



Illuminated Angle Diagram

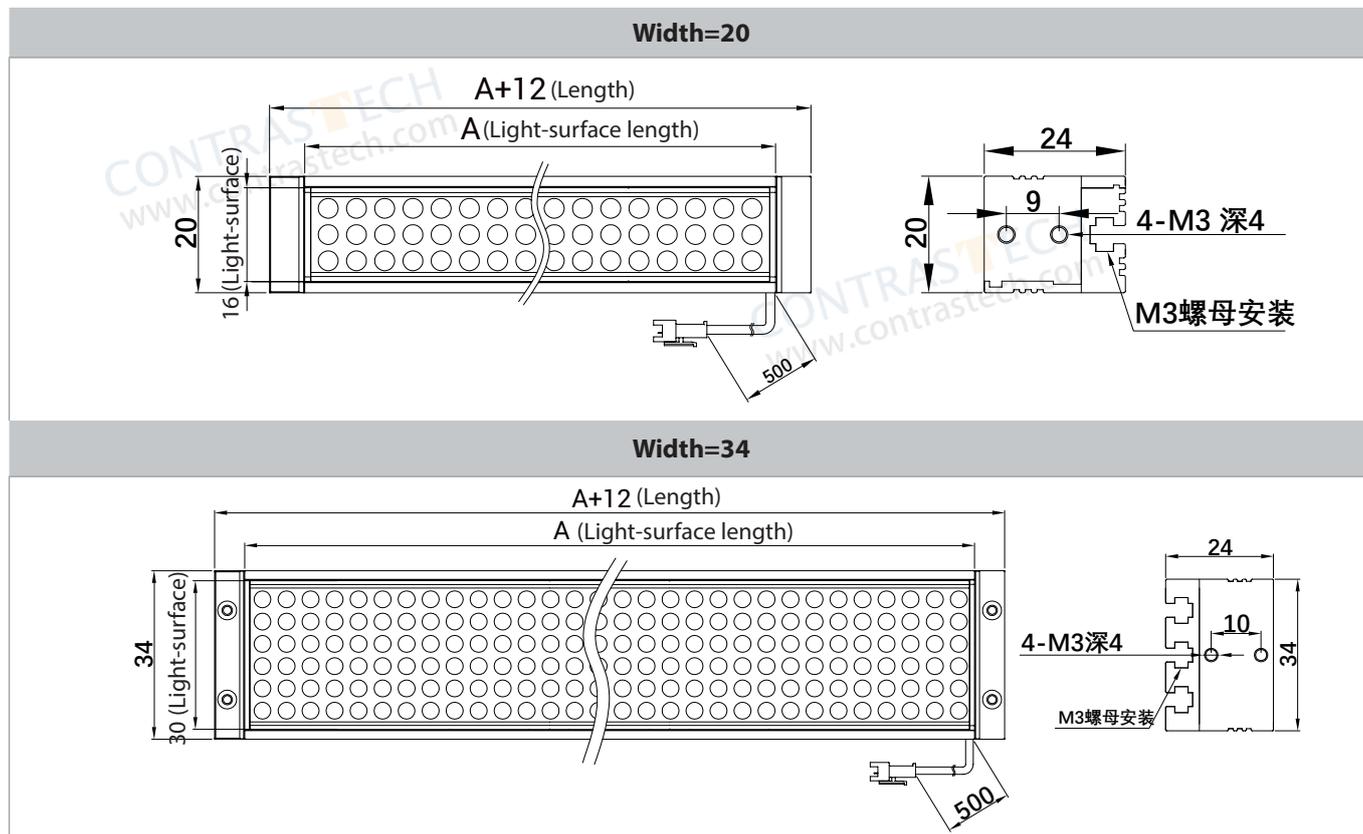


Explanation of Model Code HL Series

VT-LT2-HL	119	16	(W/B/G/R)
Series	Emitting Length	Emitting Width	Color

Model No.	Optical spec.		Electrical specifications (GREEN / NIR / UV Accept custom)				Dimensions		
	Light Area		Number of lamp beads	Supply Voltage (v)	Power cons. (w) ●	Power cons. (w) ● ●	Length (mm)	Width (mm)	Height (mm)
	Length (mm)	Width (mm)							
VT-LT2-HL4016	40	16	3	24	1.3	1.7	52	20	24
VT-LT2-HL8016	80	16	3	24	2.7	6.9	92	20	24
VT-LT2-HL11916	120	16	3	24	3.5	4.5	132	20	24
VT-LT2-HL15816	160	16	3	24	5.5	7.0	172	20	24
VT-LT2-HL19716	197	16	3	24	6.0	7.5	209	20	24
VT-LT2-HL7430	74	30	6	24	6.6	12.1	86	34	24
VT-LT2-HL8630	86	30	6	24	2.6	4.4	98	34	24
VT-LT2-HL9830	98	30	6	24	3.0	5.0	110	34	24
VT-LT2-HL14630	146	30	6	24	3.5	5.8	158	34	24
VT-LT3-HL15030	150	30	6	24	5.2	8.7	162	34	24
VT-LT2-HL17030	170	30	6	24	6.1	10.2	182	34	24
VT-LT2-HL18030	180	30	6	24	6.8	11.5	192	34	24
VT-LT2-HL19430	194	30	6	24	7.0	12.1	206	34	24
VT-LT2-HL21830	218	30	6	24	7.8	13.7	230	34	24
VT-LT2-HL26630	266	30	6	24	9.6	16.7	278	34	24
VT-LT2-HL29030	290	30	6	24	10.5	18.2	302	34	24
VT-LT2-HL38630	386	30	6	24	14.6	25.3	398	34	24
VT-LT2-HL43430	434	30	6	24	16.4	28.5	446	34	24
VT-LT2-HL57830	578	30	6	24	21.9	38.0	590	34	24

Dimension



High brightness Bar Illumination HL + Series

Features

- With high power LEDs, the light intensity is times higher than standard one.
- Aluminum housings ensure an optimal heat dissipation and dispose of various practical mounting possibilities.

Major Applications

- Robot operation directive.
- Long distance illumination.
- Inspection of sealant padding in auto industry and large format printing material, etc..



Sample Images



Imaging for characters Bar code reading



Imaging for characters Keystroke character check



Imaging for characters Checking the appearance quality

Model No.	Optical spec.		Electrical specifications		Dimensions		
	Light Area		Supply Voltage (v)	Power cons. (w) ○	Length (mm)	Width (mm)	Height (mm)
	Length (mm)	Width (mm)					
VT-LT3-HL+10035W	100	35	24	17.0	116	45	50
VT-LT3-HL+20035 W	200	35	24	34.0	216	45	50
VT-LT3-HL+30035 W	300	35	24	51.0	316	45	50
VT-LT3-HL+40035 W	400	35	24	68.0	416	45	50
VT-LT3-HL+50035 W	500	35	24	85.0	557.5	45	75.4
VT-LT3-HL+60035 W	600	35	24	102.0	657.5	45	75.4
VT-LT3-HL+70035 W	700	35	24	119.0	757.5	45	75.4
VT-LT3-HL+80035W	800	35	24	136.0	857.5	45	75.4
VT-LT3-HL+90035 W	900	35	24	153.0	957.5	45	75.4
VT-LT3-HL+100035 W	1000	35	24	170.0	1057.5	45	75.4
VT-LT3-HL+10022 W	100	22	24	8.5	112	28	44
VT-LT3-HL+20022 W	200	22	24	17.0	212	28	44
VT-LT3-HL+30022 W	300	22	24	25.5	312	28	44
VT-LT3-HL+40022 W	400	22	24	34.0	412	28	44
VT-LT3-HL+50022 W	500	22	24	42.5	512	28	44
VT-LT3-HL+60022 W	600	22	24	51.0	612	28	44
VT-LT3-HL+70022 W	700	22	24	59.5	712	28	44
VT-LT3-HL+80022 W	800	22	24	68.0	812	28	44
VT-LT3-HL+90022 W	900	22	24	76.5	912	28	44
VT-LT3-HL+100022 W	1000	22	24	85.0	1012	28	44

Model No.	Optical spec.		Electrical specifications		Dimensions		
	Length (mm)	Width (mm)	Supply Voltage (v)	Power cons. (w)	Length (mm)	Width (mm)	Height (mm)
VT-LT3-HL+11065W	110	65	24	14.4	118	71	34
VT-LT3-HL+17020W	170	20	24	-	178	26	34
VT-LT3-HL+20065W	200	65	24	68	220	85	60
VT-LT3-HL+100065W	1000	65	24	324	1020	85	60

Dimension (mm)

<p>VT-LT3-HL+11065</p>	<p>VT-LT3-HL+17020</p>	<p>VT-LT3-HL+20065</p>
<p>VT-LT3-HL+100065</p>	<p>VT-LT3-HL+ 10035-40035</p> <p>L-35 (L ≤ 400mm)</p>	
<p>VT-LT3-HL+ 50035-100035</p> <p>L-35 (500 ≤ L ≤ 1000mm)</p>	<p>VT-LT3-HL+ 10022-100022</p> <p>L-22 (100 ≤ L ≤ 1000mm) L ≤ 800 is analog plug, L ≥ 900 is aviation plug</p>	

Square Bar type Illumination HLMD Series

Features

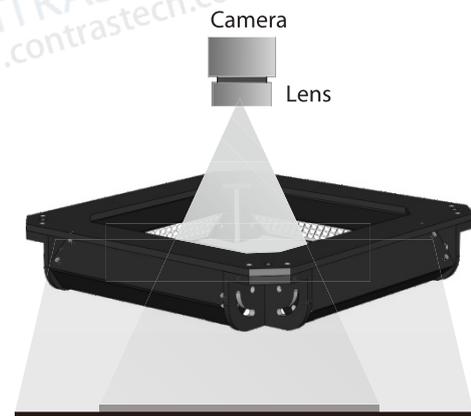
- Four high-intensity bar LED arrangement
- Optimal direct bright field or oblique dark field lighting from adjustable angles
- Can be controlled independently

Applications

- OCR on IC chips.
- Location of MARK point.
- Various inspections of large area flat material.



Illumination Structure

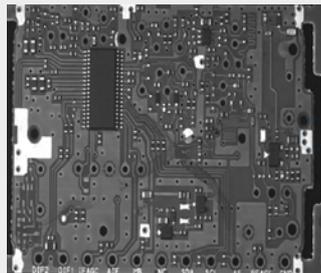


Sample Images



Lights: HLMD-8080W-MS

Use the HLMD Lights to illuminated the keyboard. Illuminating from a specific angle, can find out missing & incline characters, and other defects.



Lights: HLMD-7474R-MS

Illuminated in a low angle on PCB board surface can check whether all components present.



Lights: HLMD-4444 W-MS

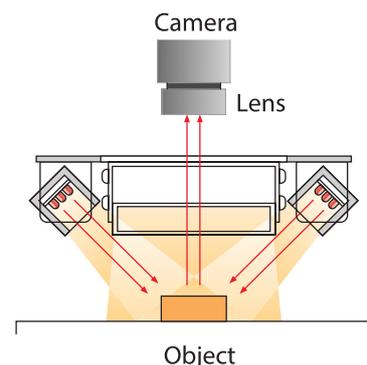
Freely adjust each lights' angle, make the product's surface evenly illuminated and surface character clearly showed/ demonstrated. Can inspect different defects on the mobile's surface.

Common Specifications

Input voltage	24 VDC
Connector	SMR-03V-B
Wavelength range	Red: 620-630nm; Blue: 465-475nm; Green: 515-530nm;
Color temperature (white)	6000-7500K
Operating environment (indoor)	Temperature: 0~40°C 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

Explanation of Model Code

VT-LT2-HLMD	28	28	(W/B/G/R)
Series	Emitting Length	Emitting Width	Color



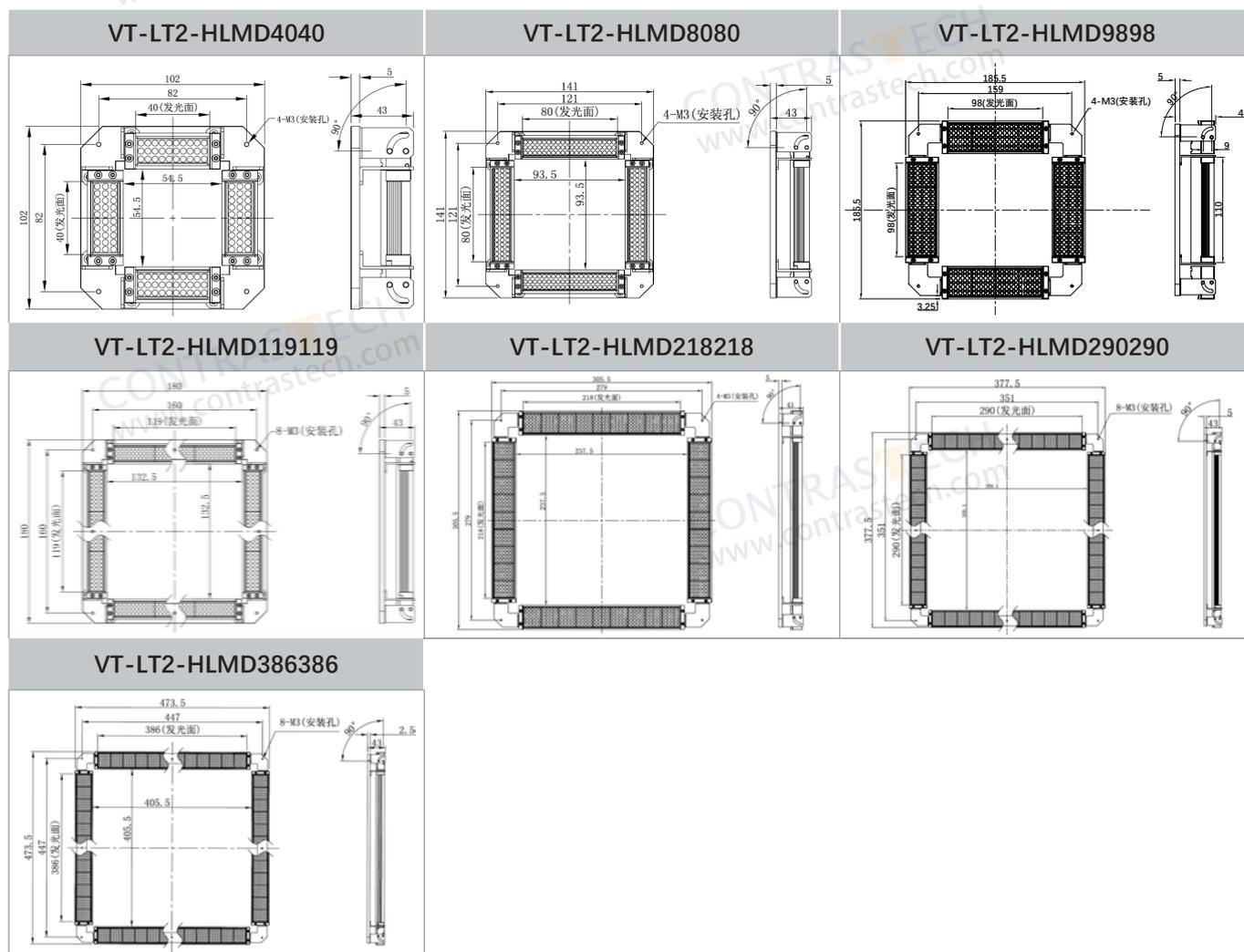
Optional Accessory: Diffusion Plate

To be mounted in front of the LED lighting.
Used to soften the lighting output, so as to reduce the glares on specular surface.



Model No.	Optical spec.			Electrical specifications (NIR / UV Accept custom)			Dimensions		
	Length (mm)	Width (mm)	Inner Hole (mm)	Supply Voltage (v)	Power cons. (w) ●	Power cons. (w) ● ○ ●	Length (mm)	Width (mm)	Height (mm)
VT-LT2-HLMD4040	40	40	54.5×54.5	24	4×1.3	4×1.3	102	201	43
VT-LT2-HLMD8080	80	80	93.5×93.5	24	4×2.7	4×2.7	141	141	43
VT-LT2-HLMD9898	98	98	-	24	4×3.5	4×5.8	185.5	185.5	42
VT-LT2-HLMD119119	119	119	132.5×132.5	24	4×4	4×4	180	180	43
VT-LT2-HLMD218218	218	218	237.5×237.5	24	4×7.8	4×7.8	305.5	305.5	43
VT-LT2-HLMD290290	290	290	309.5×309.5	24	4×10.5	4×10.5	377.5	377.5	43
VT-LT2-HLMD386386	386	386	405.5×405.5	24	4×14.6	4×14.6	473.5	473.5	43

Dimension (mm)



High Angle Ring Illumination

HR Series

Features

- Multi angles available for right light to get vivid image
- High density LED arrays for the intensity illumination
- Diffuser is available to increase the uniformity of illumination
- Breakthrough wave-soldering technology to improve production quality and efficiency.

Applications

- Lead frame inspection
- Electronic component appearance inspection
- QFP/SOP lead curve inspection
- Transparency film dirt inspection
- Various types of silhouette observation



Sample Images

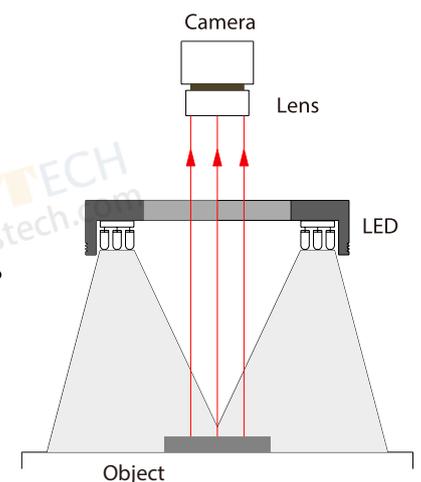
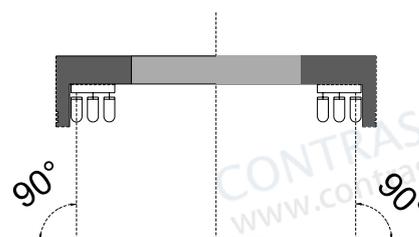
			
Imaging for characters printed on water bottle cap	Imaging for characters SD card contact	Imaging for characters Bearing scratch	Imaging for characters Battery surface

Explanation of Model Code

VT-LT2-HR	7035	90	(W/B/G/R)
Series	O.D./I.D.	Angle *	Color

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

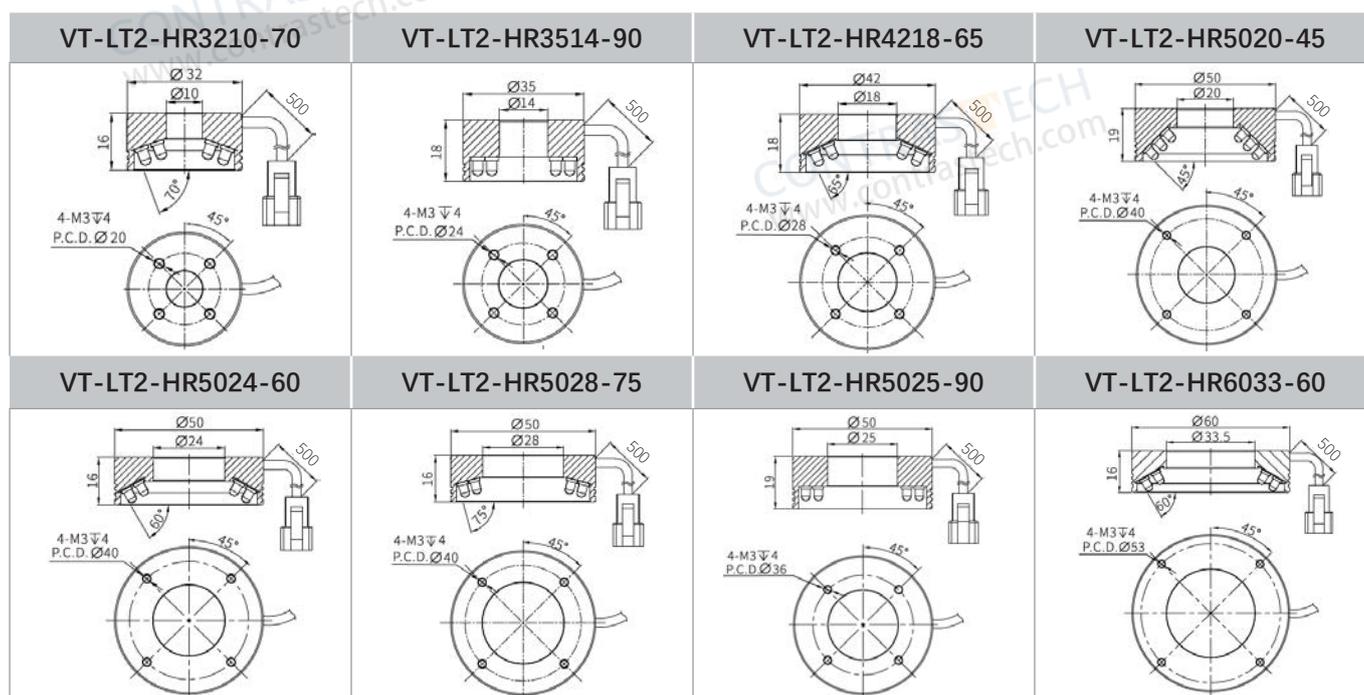
Illumination Structure



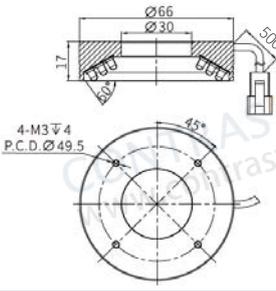
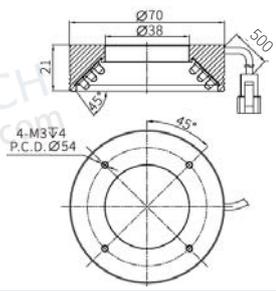
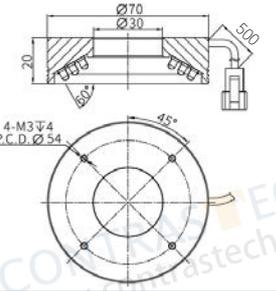
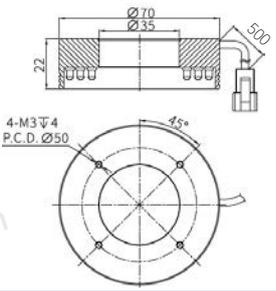
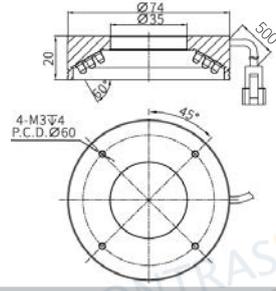
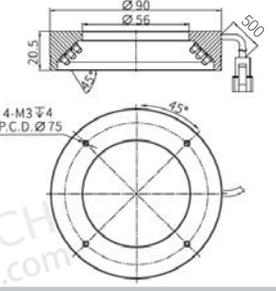
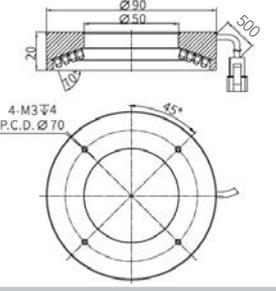
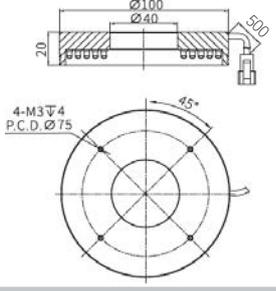
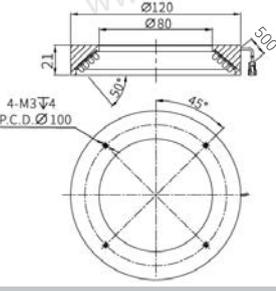
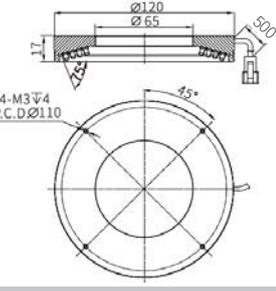
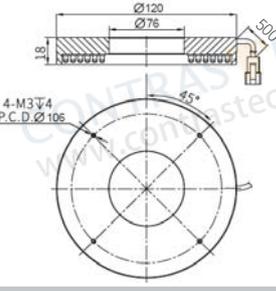
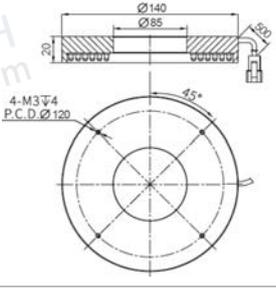
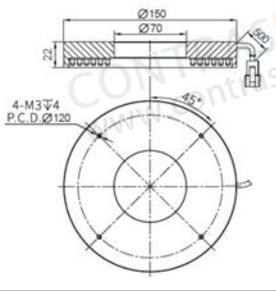
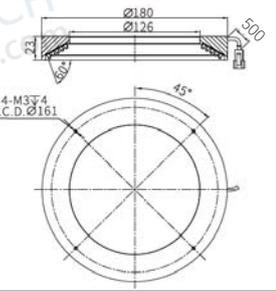
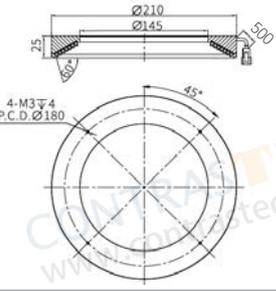
Common Specifications

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°C 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-HR3210-70	70°	15-25	24	1.4	1.4	32	10	16
VT-LT2-HR3514-90	90°	15	24	1.5	1.5	35	14	18
VT-LT2-HR4218-65	65°	19-29	24	1.7	2.2	42	18	18
VT-LT2-HR5020-45	45°	4-16	24	2.5	3.8	50	20	19
VT-LT2-HR5024-60	60°	22-31	24	2.1	2.6	50	24	16
VT-LT2-HR5028-75	75°	56	24	1.8	2.5	50	28	16
VT-LT2-HR5025-90	90°	26	24	1.9	2.6	50	25	19
VT-LT2-HR6033-60	60°	30-38	24	3.1	3.2	60	33.5	16
VT-LT2-HR6630-60	60°	27-43	24	3.8	5.2	66	30	17
VT-LT2-HR7038-45	45°	12-35	24	4.1	5.8	70	38	21
VT-LT2-HR7030-60	60°	28-46	24	4.1	5.2	70	30	20
VT-LT2-HR7035-90	90°	36	24	4.1	4.8	70	35	22
VT-LT2-HR7435-60	60°	28-45	24	4.0	5.4	74	35	20
VT-LT2-HR9056-45	45°	50-90	24	6.6	6.4	90	56	20
VT-LT2-HR9050-70	70°	68-103	24	7.6	9.0	90	50	20
VT-LT2-HR10040-90	90°	100-150	24	9.9	10.0	100	40	20
VT-LT2-HR12080-50	50°	30-48	24	12.1	12.9	120	80	21
VT-LT2-HR12065-75	75°	130-180	24	13.1	15.5	120	65	17
VT-LT2-HR12076-90	90°	120-200	24	13	16	120	76	18
VT-LT2-HR14085-70	70°	70-100	24	13.5	18	140	85	20
VT-LT2-HR15070-90	90°	150-240	24	15	22	150	70	22
VT-LT2-HR180126-60	60°	106-240	24	20.1	29.4	180	126	23
VT-LT2-HR210145-60	60°	116-166	24	23.5	30.0	210	145	25



Dimension (mm)

VT-LT2-HR6630-60	VT-LT2-HR7038-45	VT-LT2-HR7030-60	VT-LT2-HR7035-90
			
VT-LT2-HR7435-60	VT-LT2-HR9056-45	VT-LT2-HR9050-70	VT-LT2-HR10040-90
			
VT-LT2-HR12080-50	VT-LT2-HR12065-75	VT-LT2-HR12076-90	VT-LT2-HR14085-70
			
VT-LT2-HR15070-90	VT-LT2-HR180126-60	VT-LT2-HR210145-60	
			

High Angle High Brightness Ring Illumination HR+ Series

Features

- Using high-power LED, higher brightness.
- Add concentrator bowl for longer working distance.

Applications

- Robot-guided grasping
- Appearance inspection of high-speed assembly lines
- Logistics barcode, character detection

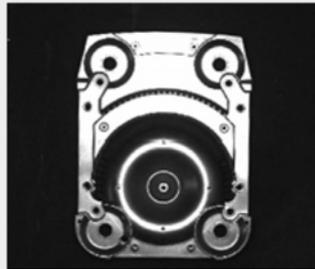


Sample Images

Sound shell round hole positioning detection



Ambient Light Imaging



Ring shadowless illumination imaging



High Brightness illumination imaging

Common Specifications

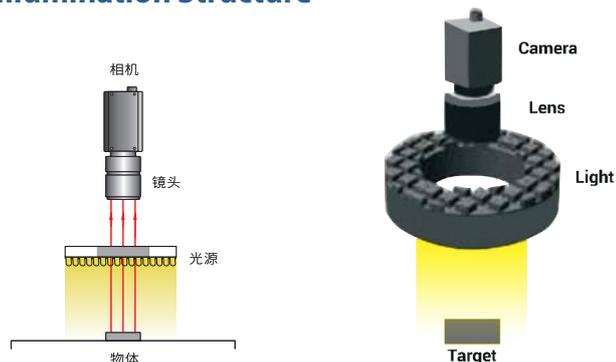
Input voltage	24 VDC
Wavelength range	Red: 620-630nm; Blue: 460-475nm; Green: 520-530nm;
Color temperature (white)	6000-10000K
Operating environment (indoor)	Temperature: 0~40°C Humidity: 20% to 85% RH (with no condensation)
Life time	White:30,000hrs, Red: 60,000hrs (Depends on the operating environment, not a gurantee)
Case material	Aluminum alloy, Resin

Explanation of Model Code

VT-LT2-HR+	7035	90	(W/B/G/R)
Series	O.D./I.D.	Angle*	Color

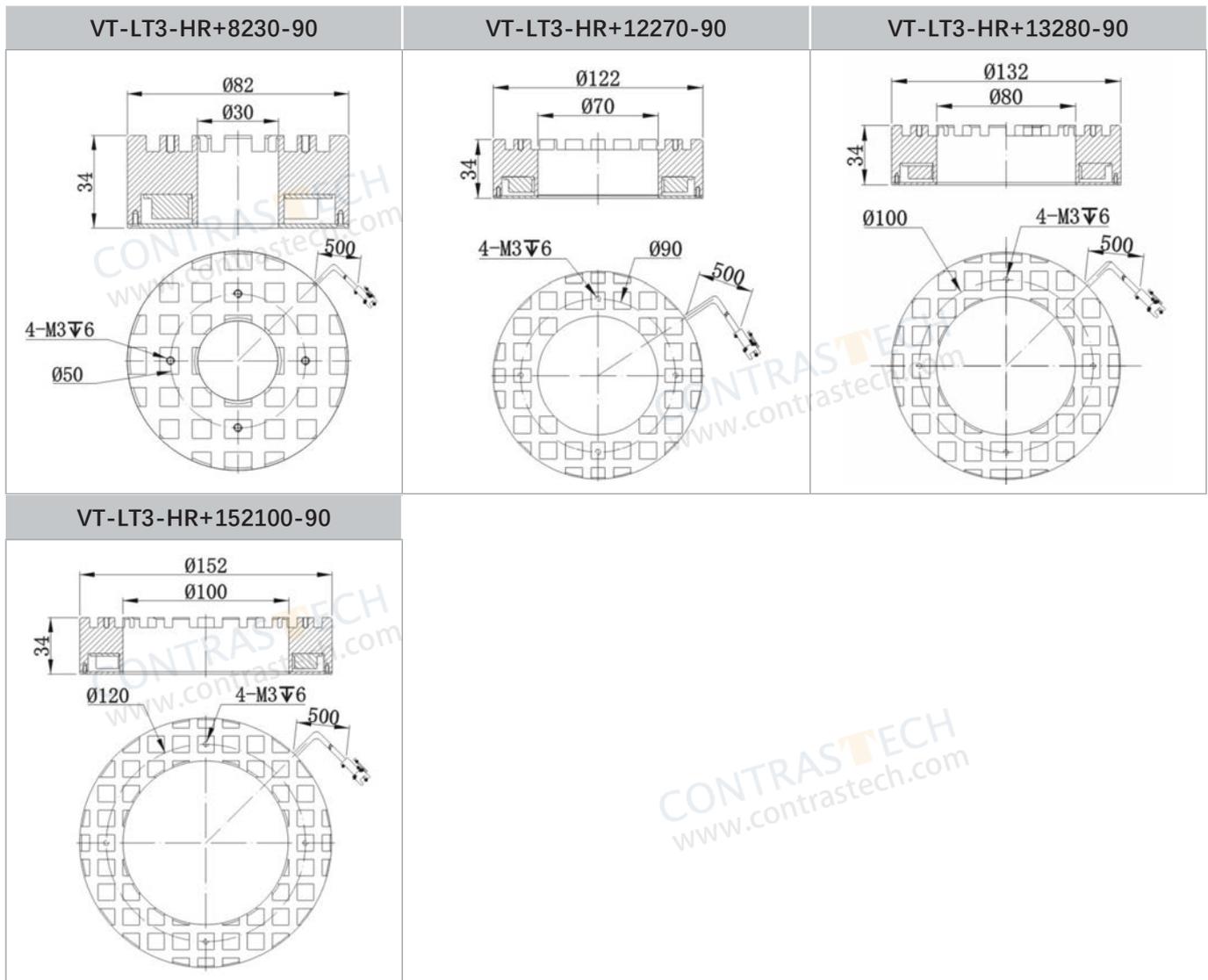
* The emission angle refers to the angle between light and horizontal plane.

Illumination Structure



Model No.	Optical spec.		Working Distance	Electrical specifications (NIR / UV Accept custom)			Dimensions		
	Light Area (mm) in-out	Emission angle (deg)	Recommended WD (mm)	Supply Voltage (v)	Power cons. (w) ● ● ●	Power cons. (w) ● ● ●	Outer diam. Ø (mm)	Inner diam. Ø (mm)	Height (mm)
VT-LT3-HR+8230-90	Ø34-Ø72	90°	100-200	24	3.6	7.2	82	30	34
VT-LT3-HR+12270-90	Ø74-Ø112	90°	150-300	24	4.8	9.6	122	70	34
VT-LT3-HR+13280-90	Ø84-Ø122	90°	150-300	24	4.8	9.6	132	80	34
VT-LT3-HR+152100-90	Ø104-Ø142	90°	150-400	24	9.6	14.4	152	100	34

Dimension (mm)



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
- Moulder
- IC marking inspection, etc.

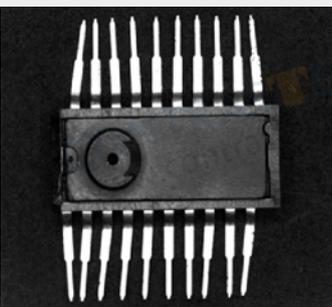


Examples of Low-Angle Ring Light Images

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.

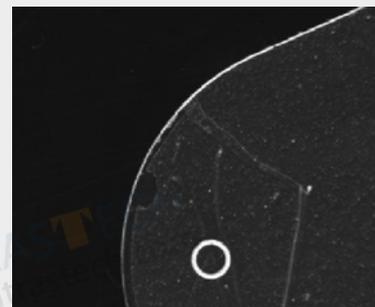
Use LR-100B to illuminate the pins, the top parts of the pins will be lighted and the reflection of the bottom part which will decrease the image contrast can be avoided.



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.



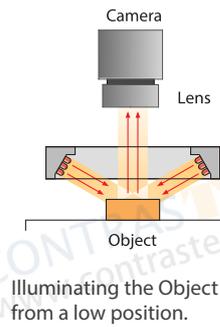
Explanation of Model Code

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

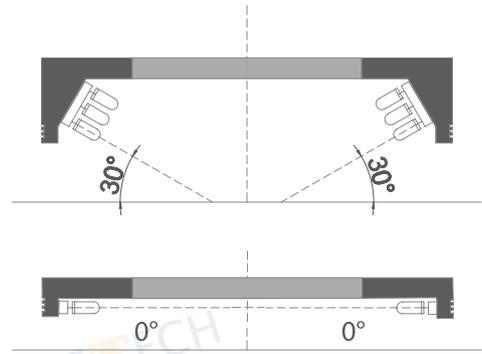
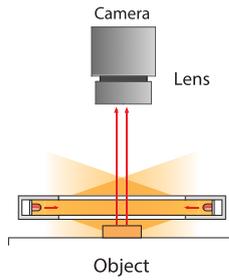
*The emission angle refers to the angle between light and horizontal plane.

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°C 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

Bottom Flat Backlight Illumination

BF Series

Flat lights provide area illumination with LED beads distributed on the bottom.

Features

- It provide diffused illumination from a flat emitting surface.
- It achieves high brightness with vast amount, high density SMD LED.

Applications

- Dimension measuring, visual inspection.
- Liquid level inspection, pinhole inspection, and burr inspection for metal parts, etc..



Light from the LEDs that are distributed on the bottom of the diffusion plate passes through the plate to produce uniform illumination.

Examples of Bottom Flat Backlights Images

Lights: BF110110R

Imaging of wheel gear outline.

Illuminated by flat lights, the outline can be highlighted clearly. Easy to check location. The red flat back lights can provide the strong penetration.

Lights: BF5151R

Imaging of FPC circuit.

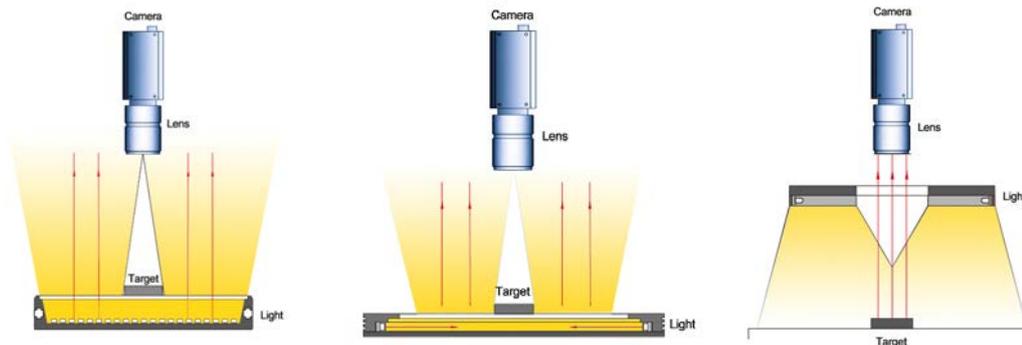
Since the light penetration ability is different between PCB's copper line and its substrate. By illuminating from back, the copper line's precise position can be distinguished from substrate.

Lights: BF7070R

Imaging of connector pins for space measurement

Inspect the flatness and space between pins, can show each pin's peak height and the space between pins under the irradiation of back lights.

Illumination Structure



Explanation of Model Code

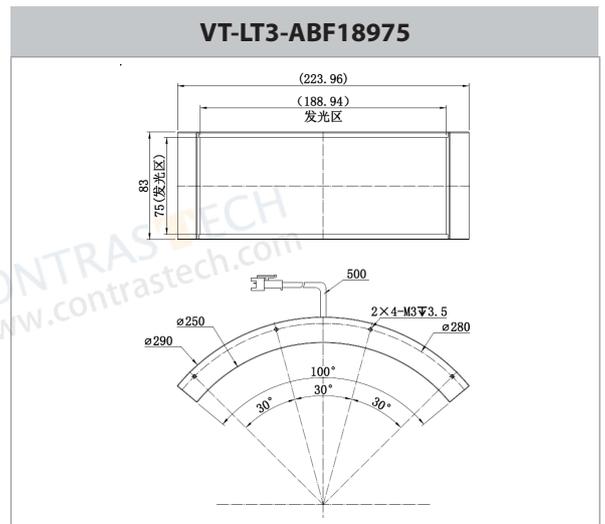
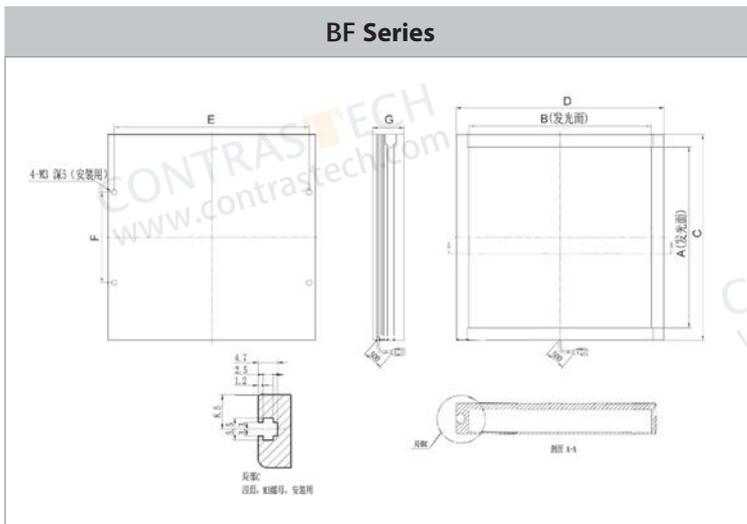
VT-LT2-BF	110	110	(W/B/G/R)
Series	Emitting Length	Emitting Width	Color

Common Specifications

Input voltage	24 VDC
Wavelength range	Red: 620-630nm; Blue: 460-475nm; Green: 520-530nm;
Color temperature (white)	5800-7500K
Operating environment (indoor)	Temperature: 0~40°C 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 (GREEN / NIR / UV Accept custom)			Dimensions		
	Light Area			Recommended WD (mm)	Supply Voltage (v)	Power cons. (w) ●	Power cons. (w) ○ ●	Length (mm)	Width (mm)
Length (mm)	Width (mm)								
VT-LT2-BF2727	27	27	30-100	24	1.1	2.8	41	41	17
VT-LT2-BF4335	43	35	30-100	24	1.9	2.8	57	49	17
VT-LT2-BF5050	50	50	30-100	24	3.0	4.5	64	64	17
VT-LT2-BF6360	63	60	30-100	24	4.1	5.2	77	74	17
VT-LT2-BF8375	83	75	30-100	24	5.5	5.1	97	89	17
VT-LT2-BF100100	100	100	30-100	24	9.5	10.0	114	114	17
VT-LT2-BF140105	140	105	30-100	24	13.8	13.9	154	119	17
VT-LT2-BF160120	160	120	30-100	24	16.6	17.4	174	134	17
VT-LT2-BF20050	200	50	30-100	24	9.9	20.0	214	64	17
VT-LT2-BF200150	200	150	30-100	24	28.8	30.2	214	164	17
VT-LT2-BF211200	211	200	30-100	24	24.2	24.2	225	214	17
VT-LT2-BF224170	224	170	30-100	24	33.7	33.7	238	184	17
VT-LT3-BF250150	250	150	0-100	24	25.2	36	264	164	19
VT-LT3-BF250250	250	250	0-100	24	45.36	64.8	264	264	19
VT-LT3-BF300200	300	200	0-150	24	40.32	50.4	314	214	19
VT-LT3-BF400300	400	300	0-150	24	80.64	100.8	414	314	22
VT-LT3-BF400350	400	350	0-200	24	80.64	110.8	414	364	22
VT-LT3-BF500400	500	400	0-200	24	144	180	520	420	34
VT-LT3-BF500500	500	500	0-200	24	/	162	560	520	33
VT-LT3-BF600400	600	400	0-200	24	172.8	216	620	420	34
VT-LT3-ABF18975	188.94	75	/	/	/	25	223.96	83	/

Dimension (mm)



Model No.	Lighting Drawing Dimension Description and Notes						
	A	B	C	D	E	F	G
VT-LT2-BF2727	27	27	41	41	34	18	17
VT-LT2-BF4335	43	35	57	49	42	18	17
VT-LT2-BF5050	50	50	64	64	57	18	17
VT-LT2-BF6360	63	60	77	74	67	18	17
VT-LT2-BF8375	83	75	97	89	82	50	17
VT-LT2-BF100100	100	100	114	114	107	50	17
VT-LT2-BF140105	140	105	154	119	112	80	17
VT-LT2-BF160120	160	120	174	134	127	80	17
VT-LT2-BF20050	200	50	214	64	57	80	17
VT-LT2-BF200150	200	150	214	164	157	80	17
VT-LT2-BF211200	211	200	225	214	207	80	17
VT-LT2-BF224170	224	170	238	184	177	80	17
VT-LT3-BF250150	250	150	264	164	230	130	19
VT-LT3-BF250250	250	250	264	264	230	240	19
VT-LT3-BF300200	300	200	314	214	280	150	19
VT-LT3-BF400300	400	300	414	314	330	240	22
VT-LT3-BF400350	400	350	414	364	330	300	22
VT-LT3-BF500400	500	400	520	420	450	300	34
VT-LT3-BF500500	500	500	560	520	400	540	33
VT-LT3-BF600400	600	400	620	420	540	300	34

Side Flat Backlights Illumination

BFC Series

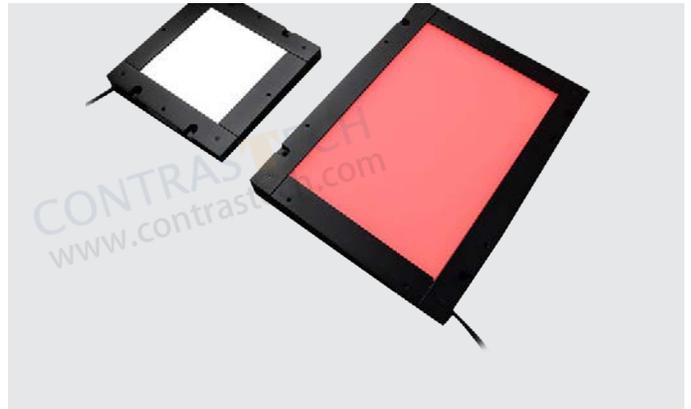
Flat lights provide area illumination with LED beads distributed on the inner side.

Features

- Through unique photo-conductive material, light scatters over and over, which can reduce directive of light ray and make it uniform.
- The light color and the size of emitting surface can be easily customized according to request.

Applications

- Dimension measuring, visual inspection.
- Liquid level inspection, pinhole inspection, and burr inspection for metal parts, etc..
- Inspection for tears/stains on packaging, etc..



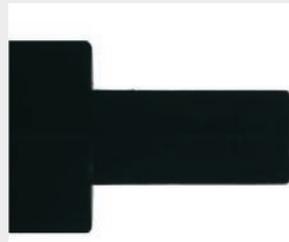
Compact design, suitable for a variety of applications.

Examples of Bottom Flat Backlights Images



Lights: BFC5050W

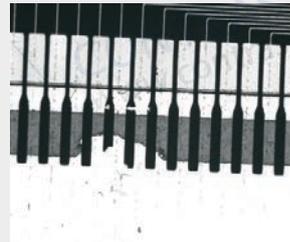
Imaging of agates



Lights: BFC5050B

Imaging of shaft parts.

Appropriate distance the light off working piece can improve the measurement accuracy.



Lights: BFC100100B

Imaging of connecting fingers and surface coating of FPC.

Illumination Structure

Light from the LEDs that are distributed on the inner side passes through the plate to produce uniform illumination.

Common Specifications

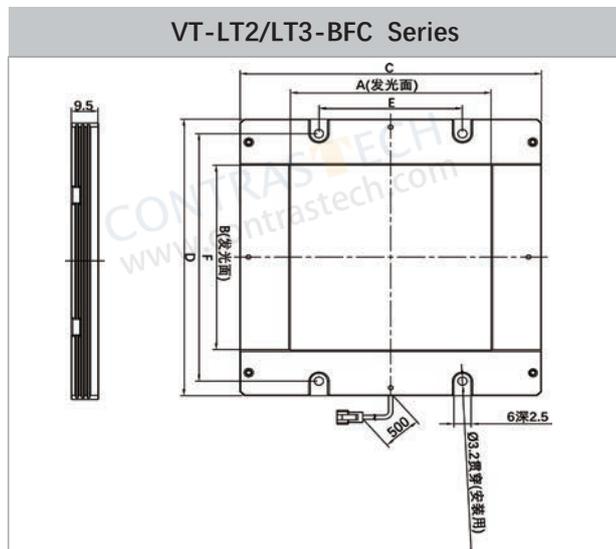
Input voltage	24 VDC
Wavelength range	Red: 620-630nm; Blue: 460-475nm; Green: 520-530nm;
Color temperature (white)	5800-7500K
Operating environment (indoor)	Temperature: 0~40°C Humidity: 20% to 85% RH (with no condensation)
Life time	White:30,000hrs, Red: 60,000hrs (Depends on the operating environment, not a gurantee)
Case material	Aluminum alloy, Resin

Explanation of Model Code

VT-LT2-BFC	100	100	(W/B/G/R)
Series	Emitting Length	Emitting Width	Color

Model No.	Optical spec.		Working Distance	Electrical specifications (GREEN / NIR / UV Accept custom)			Dimensions		
	Light Area			Recommended WD (mm)	Supply Voltage (v)	Power cons. (w) ●	Power cons. (w) ● ○ ●	Length (mm)	Width (mm)
Length (mm)	Width (mm)								
VT-LT2-BFC5050	50	50	30-100	24	3.0	4	85	85	9.5
VT-LT2-BFC7070	70	70	30-100	24	5.9	7.9	105	105	9.5
VT-LT2-BFC8080	80	80	30-100	24	6.0	10.0	115	115	9.5
VT-LT2-BFC9090	90	90	30-100	24	6.3	12.6	125	125	9.5
VT-LT2-BFC110110	110	110	30-100	24	6.8	12.6	145	145	9.5
VT-LT2-BFC150100	150	100	30-100	24	4.4	10.0	185	135	9.5
VT-LT2-BFC200160	200	160	30-100	24	6.5	12.1	235	195	9.5
VT-LT2-BFC200200	200	200	30-100	24	6.7	26.3	235	235	9.5
VT-LT2-BFC250200	250	200	30-100	24	8.4	16.8	285	235	9.5
VT-LT2-BFC300300	300	300	30-100	24	15.5	35.0	335	335	9.5
VT-LT3-BFC300200	300	200	0-100	24	16.8	16.8	334	234	10.5
VT-LT3-BFC350350	350	350	0-100	24	22	22	384	384	10.5
VT-LT3-BFC400300	400	300	0-200	24	23.5	23.5	434	334	10.5
VT-LT3-BFC500400	500	400	0-200	24	30.24	30.24	534	434	10.5
VT-LT3-BFC600400	600	400	0-200	24	33.6	33.6	634	434	10.5

Dimension (mm)



Model No.	Lighting Drawing Dimension Description and Notes					
	A	B	C	D	E	F
VT-LT2-BFC5050	50	50	85	85	-	75
VT-LT2-BFC7070	70	70	105	105	50	94
VT-LT2-BFC8080	80	80	115	115	60	104
VT-LT2-BFC9090	90	90	125	125	70	114
VT-LT2-BFC110110	110	110	145	145	90	134
VT-LT2-BFC150100	150	100	185	135	130	124
VT-LT2-BFC200160	200	160	235	195	180	184
VT-LT2-BFC200200	200	200	235	235	180	224
VT-LT2-BFC250200	250	200	285	235	230	224
VT-LT2-BFC300300	300	300	335	335	280	324
VT-LT3-BFC300200	300	200	334	234	252	223
VT-LT3-BFC350350	350	350	384	384	280	373
VT-LT3-BFC400300	400	300	434	334	336	323
VT-LT3-BFC500400	500	400	534	434	340	423
VT-LT3-BFC600400	600	400	634	434	580	424

Bottom/Side Parallel Flat Backlight Illumination

BFP / BFCP Series

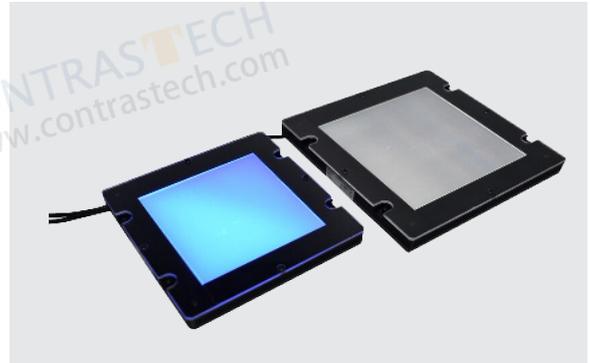
Flat lights provide large parallel emitting area.

Features

- Optimizing the lights with unique material, making the light radiate in parallel.
- The light is with standard mold shell and compact structure, easy to install.

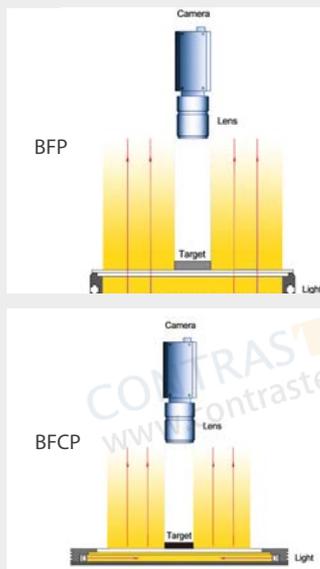
Applications

- Dimension measuring, appearance inspection.
- Identification and inspection of the large size mechanical parts.



Illumination Structure

Compared with BFC series, BFCP series add an unique parallel plate above the diffusion plate to make the light radiate in parallel



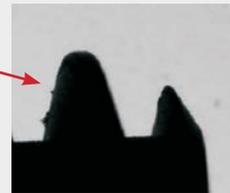
Examples of Parallel Flat Backlight Images

Comparison of screw thread image

Using parallel flat light could illuminate the edge of the screw thread more clearly and precisely.



Generic Flat Lighting (BFC series)
Image of screw thread and enlarged view



Parallel Flat Lighting (BFCP series)
Image of screw thread and enlarged view

Common Specifications

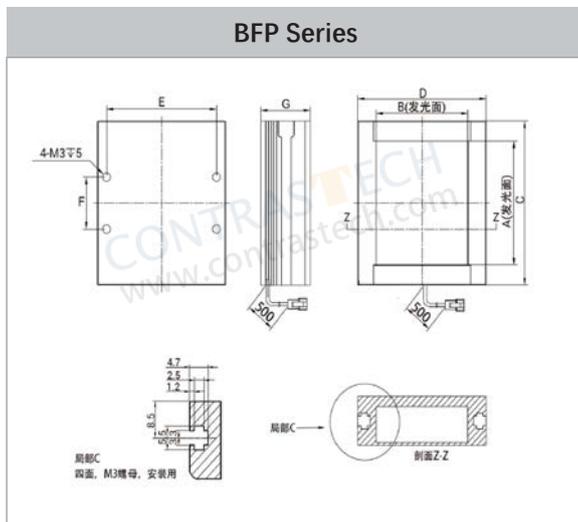
Input voltage	24 VDC
Wavelength range	Red: 620-630nm; Blue: 460-475nm; Green: 520-530nm;
Color temperature (white)	5800-7500K
Operating environment (indoor)	Temperature: 0~40°C Humidity: 20% to 85% RH (with no condensation)
Life time	White:30,000hrs, Red: 60,000hrs (Depends on the operating environment, not a guarantee)
Case material	Aluminum alloy, Resin

Explanation of Model Code

VT-LT2-BFP/BFCP	100	100	(W/B/R)
Series	Emitting Length	Emitting Width	Color
LT2-BFP	Flat lights provide area illumination with LED beads distributed on the bottom.		
LT2-BFCP	Flat lights provide area illumination with LED beads distributed on the inner side.		

Model No.	Optical spec.		Working Distance	Electrical specifications (GREEN / NIR / UV Accept custom)			Dimensions		
	Light Area			Recommended WD (mm)	Supply Voltage (v)	Power cons. (w) ●	Power cons. (w) ● ○ ●	Length (mm)	Width (mm)
Length (mm)	Width (mm)								
VT-LT2-BFP2727	27	27	30-100	24	3.0	10.9	41	41	19
VT-LT2-BFP4335	43	35	30-100	24	5.9	7.9	57	49	19
VT-LT2-BFP5050	50	50	30-100	24	6.0	9.3	64	64	19
VT-LT2-BFP6360	63	60	30-100	24	6.8	12.6	77	74	19
VT-LT2-BFP8375	83	75	30-100	24	4.4	10.0	97	89	19
VT-LT2-BFP100100	100	100	30-100	24	6.5	12.1	114	114	19
VT-LT2-BFP140105	140	105	30-100	24	6.7	26.3	154	119	19
VT-LT2-BFP160120	160	120	30-100	24	8.4	16.8	174	134	19
VT-LT2-BFP20050	200	50	30-100	24	8.2	16.6	214	64	19
VT-LT2-BFP200150	200	150	30-100	24	15.5	35.0	214	164	19
VT-LT2-BFP211200	211	200	30-100	24	12.3	24.0	225	214	19
VT-LT2-BFP224170	224	170	30-100	24	36.3	36.3	238	184	19
VT-LT3-BFP300200	300	200	0-150	24	40.32	50.4	314	214	21
VT-LT3-BFP400300	400	300	0-150	24	80.64	100.8	414	314	22
VT-LT3-BFP400350	400	350	0-200	24	80.64	110.8	414	364	22
VT-LT3-BFP500400	500	400	0-200	24	144	180	520	420	34
VT-LT3-BFP600400	600	400	0-200	24	172.8	216	620	420	34

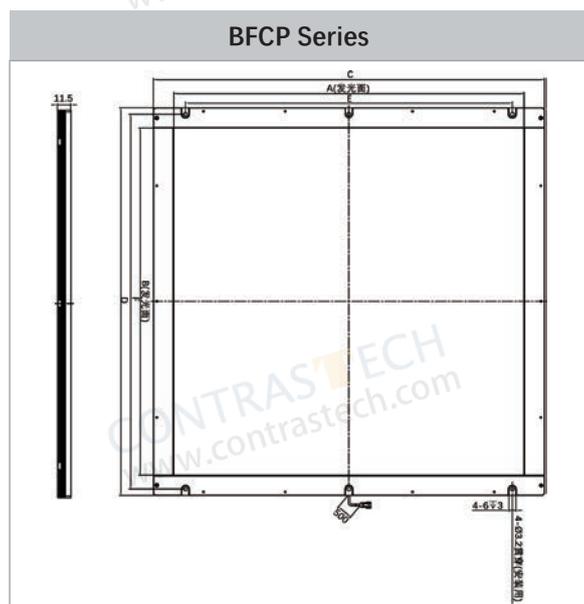
Dimension (mm)



Model No.	Lighting Drawing Dimension Description and Notes						
	A	B	C	D	E	F	G
VT-LT2-BFP2727	27	27	41	41	34	18	19
VT-LT2-BFP4335	43	35	57	49	42	18	19
VT-LT2-BFP5050	50	50	64	64	57	18	19
VT-LT2-BFP6360	63	60	77	74	67	25	19
VT-LT2-BFP8375	83	75	97	89	82	50	19
VT-LT2-BFP100100	100	100	114	114	107	50	19
VT-LT2-BFP140105	140	105	154	119	112	80	19
VT-LT2-BFP160120	160	120	174	134	127	80	19
VT-LT2-BFP20050	200	50	214	64	57	80	19
VT-LT2-BFP200150	200	150	214	164	157	80	19
VT-LT2-BFP211200	211	200	225	214	207	80	19
VT-LT2-BFP224170	224	170	238	184	177	80	19
VT-LT3-BFP300200	300	200	314	214	150	280	21
VT-LT3-BFP400300	400	300	414	314	240	330	24.5
VT-LT3-BFP400350	400	350	414	364	300	330	24.5
VT-LT3-BFP500400	500	400	520	420	300	450	34
VT-LT3-BFP600400	600	400	620	420	300	540	34

Model No.	Optical spec.		Working Distance	Electrical specifications (GREEN / NIR / UV Accept custom)			Dimensions		
	Light Area			Recommended WD (mm)	Supply Voltage (v)	Power cons. (w) ●	Power cons. (w) ● ○ ●	Length (mm)	Width (mm)
Length (mm)	Width (mm)								
VT-LT2-BFCP5050	50	50	30-100	24	3.0	10.9	85	85	11.5
VT-LT2-BFCP7070	70	70	30-100	24	5.9	7.9	105	105	11.5
VT-LT2-BFCP8080	80	80	30-100	24	6.0	10.0	115	115	11.5
VT-LT2-BFCP9090	90	90	30-100	24	6.3	12.6	125	125	11.5
VT-LT2-BFCP110110	110	110	30-100	24	6.8	12.6	145	145	11.5
VT-LT2-BFCP150100	150	100	30-100	24	4.4	10.0	185	135	11.5
VT-LT2-BFCP200160	200	160	30-100	24	6.5	12.1	235	195	11.5
VT-LT2-BFCP200200	200	200	30-100	24	6.7	26.3	235	235	11.5
VT-LT2-BFCP250200	250	200	30-100	24	8.4	16.8	285	235	11.5
VT-LT2-BFCP300200	300	200	30-100	24	8.2	16.6	335	235	11.5
VT-LT2-BFCP300300	300	300	30-100	24	15.5	35.0	335	335	11.5
VT-LT3-BFCP400300	400	300	0-200	24	23.5	23.5	434	334	10.5
VT-LT3-BFCP600400	600	400	0-200	24	33.6	33.6	634	434	10.5

Dimension (mm)



Model No.	Lighting Drawing Dimension Description and Notes					
	A	B	C	D	E	F
VT-LT2-BFCP5050	50	50	85	85	-	-
VT-LT2-BFCP7070	70	70	105	105	50	94
VT-LT2-BFCP8080	80	80	115	115	60	104
VT-LT2-BFCP9090	90	90	125	125	70	114
VT-LT2-BFCP110110	110	110	145	145	90	134
VT-LT2-BFCP150100	150	100	185	135	130	124
VT-LT2-BFCP200160	200	160	235	195	180	184
VT-LT2-BFCP200200	200	200	235	235	180	224
VT-LT2-BFCP250200	250	200	285	235	230	224
VT-LT2-BFCP300200	300	200	335	235	280	224
VT-LT2-BFCP300300	300	300	335	335	280	324
VT-LT3-BFCP400300	400	300	434	334	366	325
VT-LT3-BFCP600400	600	400	634	434	580	424

Side Flat Backlights Illumination

BFCK Series

Front flat lighting with an opening in the center

Features

- The camera can penetrate through the central opening of the lights
- The emitting area, the lights color, the number and size of the holes, all can be customized.

Applications

- Large size PCB parts inspection and recognition.
- Mark point position
- Large size electronic part inspection.



Illumination Structure

Examples of Bottom Flat Backlights Images



Light: BFCK150100R
Imaging of zipper teeth

Lights: BFCK250200B
Imaging of plastic parts for location.

Common Specifications

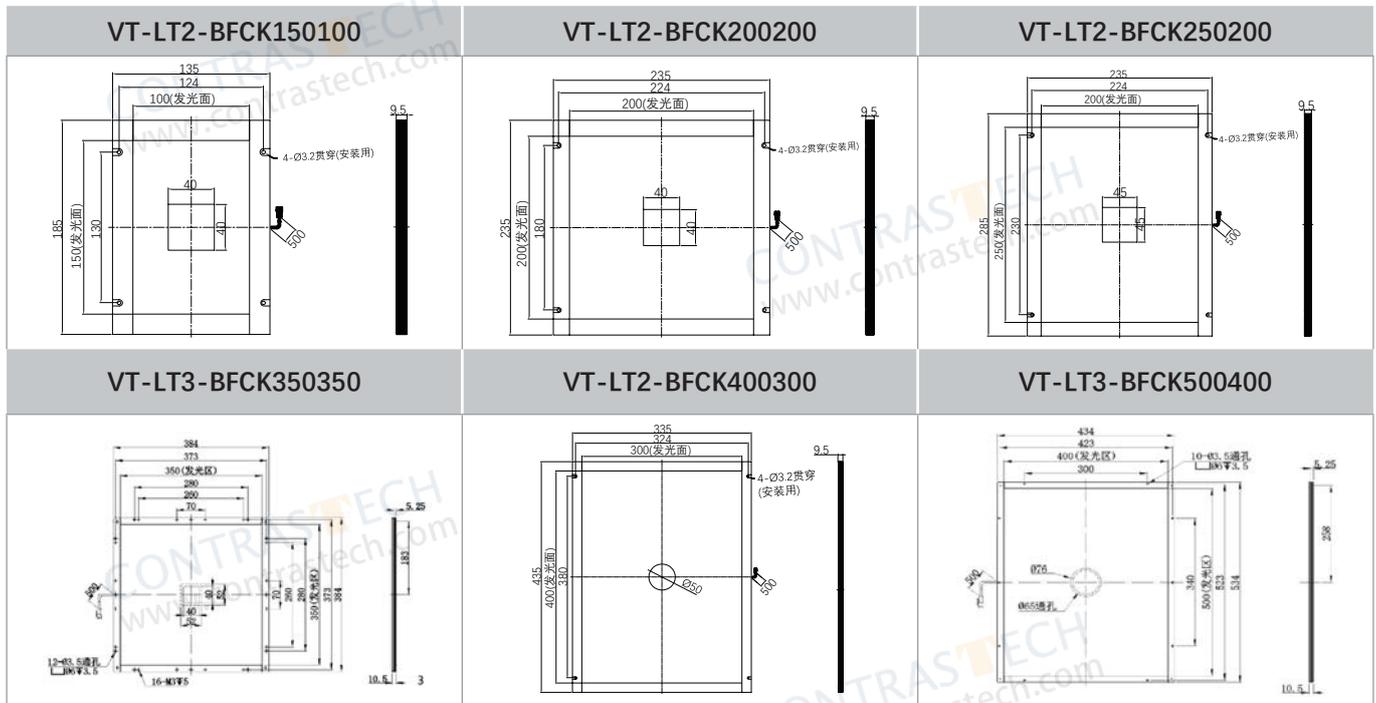
Input voltage	24 VDC
Wavelength range	Red: 620-630nm; Blue: 460-475nm; Green: 520-530nm;
Color temperature (white)	5800-7500K
Operating environment (indoor)	Temperature: 0~40°C Humidity: 20% to 85% RH (with no condensation)
Life time	White:30,000hrs, Red: 60,000hrs (Depends on the operating environment, not a gurantee)
Case material	Aluminum alloy, Resin

Explanation of Model Code

VT-LT2-BFCK	100	100	(W/B/G/R)
Series	Emitting Length	Emitting Width	Color

Model No.	Optical spec.		Electrical specifications (NIR / UV Accept custom)			Dimensions			Hole Size
	Light Area		Supply Voltage (v)	Power cons.(w) ●	Power cons. (w) ● ○ ●	Length (mm)	Width (mm)	Height (mm)	Aperture (mm)
Length (mm)	Width (mm)								
VT-LT2-BFCK150100	150	100	24	4.2	10.3	185	135	9.5	40×40(square)
VT-LT2-BFCK200200	200	200	24	16.1	24.0	235	235	9.5	40×40(square)
VT-LT2-BFCK250200	250	200	24	6.9	16.8	285	235	9.5	45×45(square)
VT-LT3-BFCK350350	350	350	24	-	23.52	384	384	10.5	40×40 (square)
VT-LT2-BFCK400300	400	300	24	11.5	24.0	435	335	9.5	Ø50 (circle)
VT-LT3-BFCK500400	500	400	24	-	30.3	534	434	10.5	Ø65 (circle)

Dimension (mm)



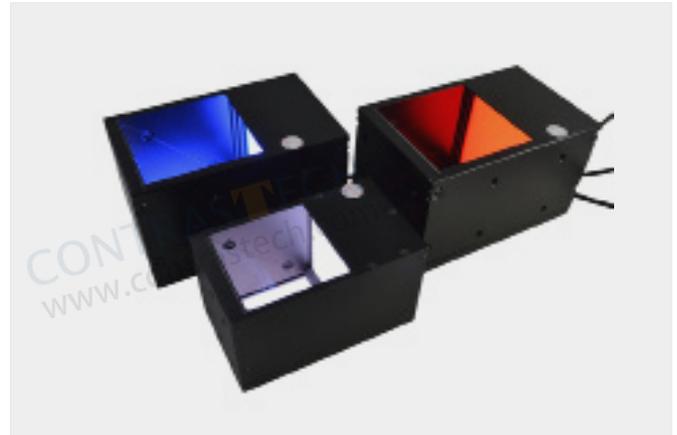
Coaxial Illumination C Series

Features

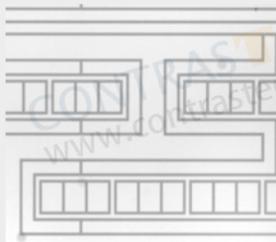
- High density LED provide high brightness light ray.
- Highly-accurate optical glass is used for the camera window and spectroscope.

Applications

- Inspection of high reflective surface scratches, defects of chip and silicon wafer, etc..
- Mark point position, laser character detection, bar code recognition

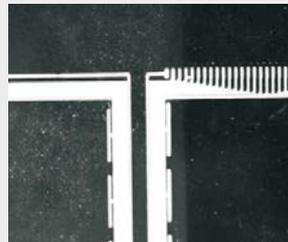


Examples of Coaxial Light Images



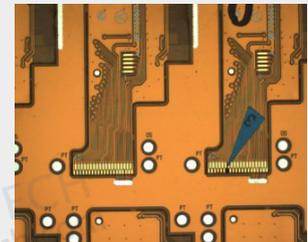
Lights: C40UV405

Checking ITO circuit in the touch screen with the new coaxial UV lighting, High brightness and uniformity.



Lights: C20R

Touch screen position alignment system



Lights: C50B

Checking the completeness of pins in FPC

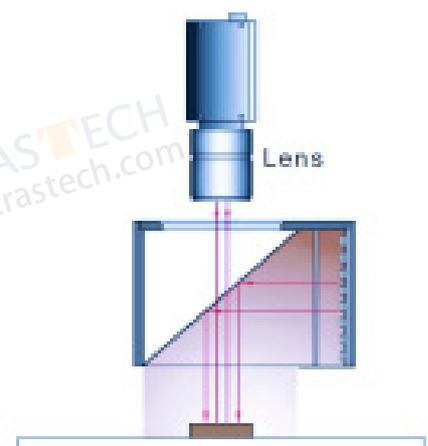
Explanation of Model Code

VT-LT2-C	19	19	(W/B/G/R)
Series	Emitting Length	Emitting Width	Color

Common Specifications

Input voltage	24 VDC
Connector	SMR-03V-B
Wavelength range	Red: 620-630nm; Blue: 460-475nm; Green: 520-530nm;
Color temperature (white)	5800-7500K
Operating environment (indoor)	Temperature: 0~40°C Humidity: 20% to 85% RH (with no condensation)
Life time	White:30,000hrs, Red: 60,000hrs (Depends on the operating environment, not a guarantee)
Case material	Aluminum alloy, Resin

Illumination Structure



Parallel Coaxial Illumination

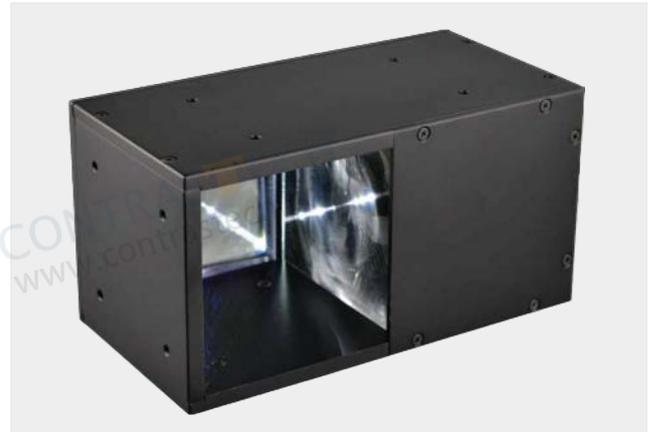
CPL Series

Features

- Special optical system and multi lens assembly ensure homogeneity and parallelism.
- Patented products with imported spectroscope ensure image quality.

Applications

- Inspecting raised characters, scratches, watermarks on card.
- Inspection for surface indentation and scratches on flat hardware.



Examples of Coaxial Light Images



Light: CPL5050W
Highlight characters



Light: CPL6060W
Highlight scratches

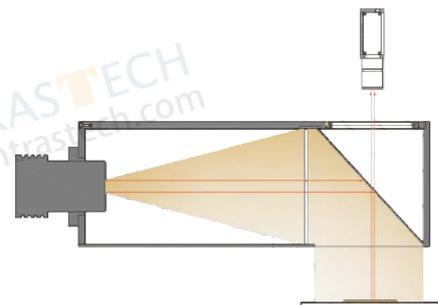


Light: CPL6060W
Highlight watermarks

Common Specifications

Input voltage	24 VDC
Connector	SMR-03V-B
Wavelength range	Red: 620-630nm; Blue: 460-475nm; Green: 520-530nm;
Color temperature (white)	6000-7500K
Operating environment (indoor)	Temperature: 0~40°C 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

Illumination Structure

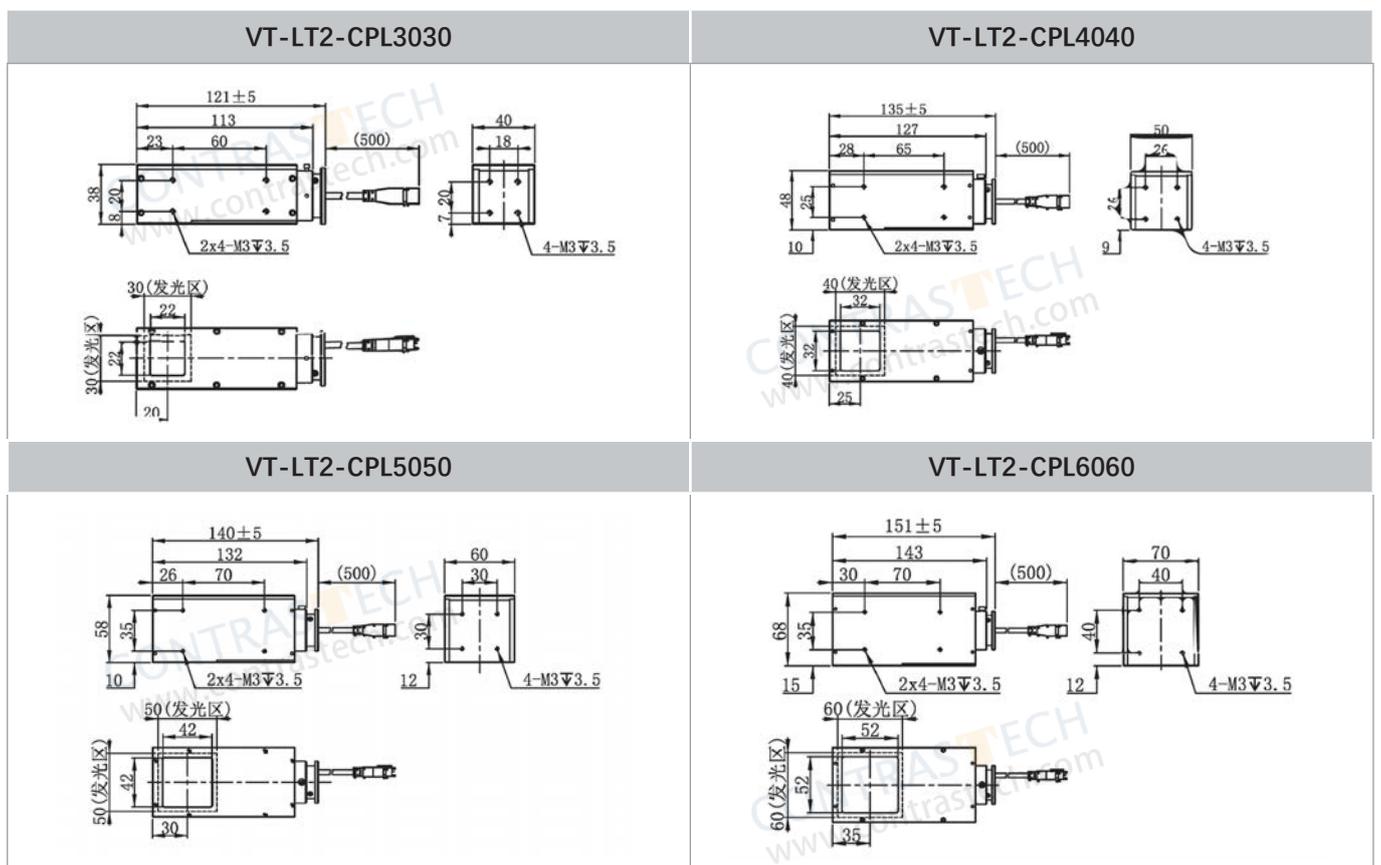


Explanation of Model Code

VT-LT2-CPL	50	50	(W/B/G/R)
Series	Emitting Length	Emitting Width	Color

Model No.	Optical spec.	Electrical specifications (GREEN / NIR / UV Accept custom)			Dimensions		
		Light Area (mm)	Supply Voltage (v)	Power cons. (w) ●	Power cons. (w) ● ○ ●	Length (mm)	Width (mm)
VT-LT2-CPL3030	30x30	5	1.8	2.5	121±5	40	38
VT-LT2-CPL4040	40x40	5	1.8	2.5	135±5	50	48
VT-LT2-CPL5050	50x50	5	1.8	2.5	140±5	60	58
VT-LT2-CPL6060	60x60	5	1.8	2.5	151±5	70	68

Dimension (mm)



90° Turning Coaxial Illumination CX Series

Features

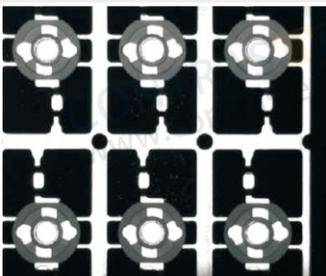
- Compact design with no fan and 90degree rotation, easy to installation.
- Special coating film on lens, providing excellent optic effects.

Applications

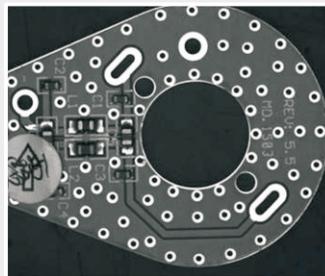
- Inspection of defects, faults, scratches on highly reflective surface, such as glossy surfaces or mirrors.
- Mark point position, laser character detection, bar code recognition



Examples of Coaxial Light Images



Light: CX60W
LED location alignment



Light: CX50R
Imaging of PCB copper

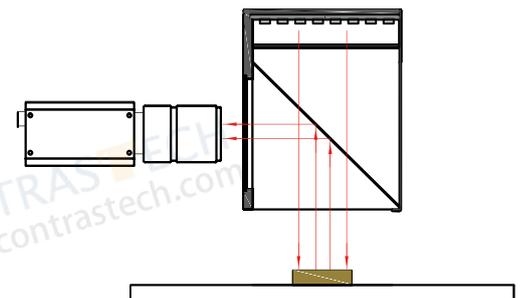


Light: CX30R
maging of scale angles on dial plate.

Common Specifications

Input voltage	24 VDC
Connector	SMR-03V-B
Wavelength range	Red: 620-630nm; Blue: 460-475nm; Green: 520-530nm;
Color temperature (white)	6000-7500K
Operating environment (indoor)	Temperature: 0~40°C 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

Illumination Structure

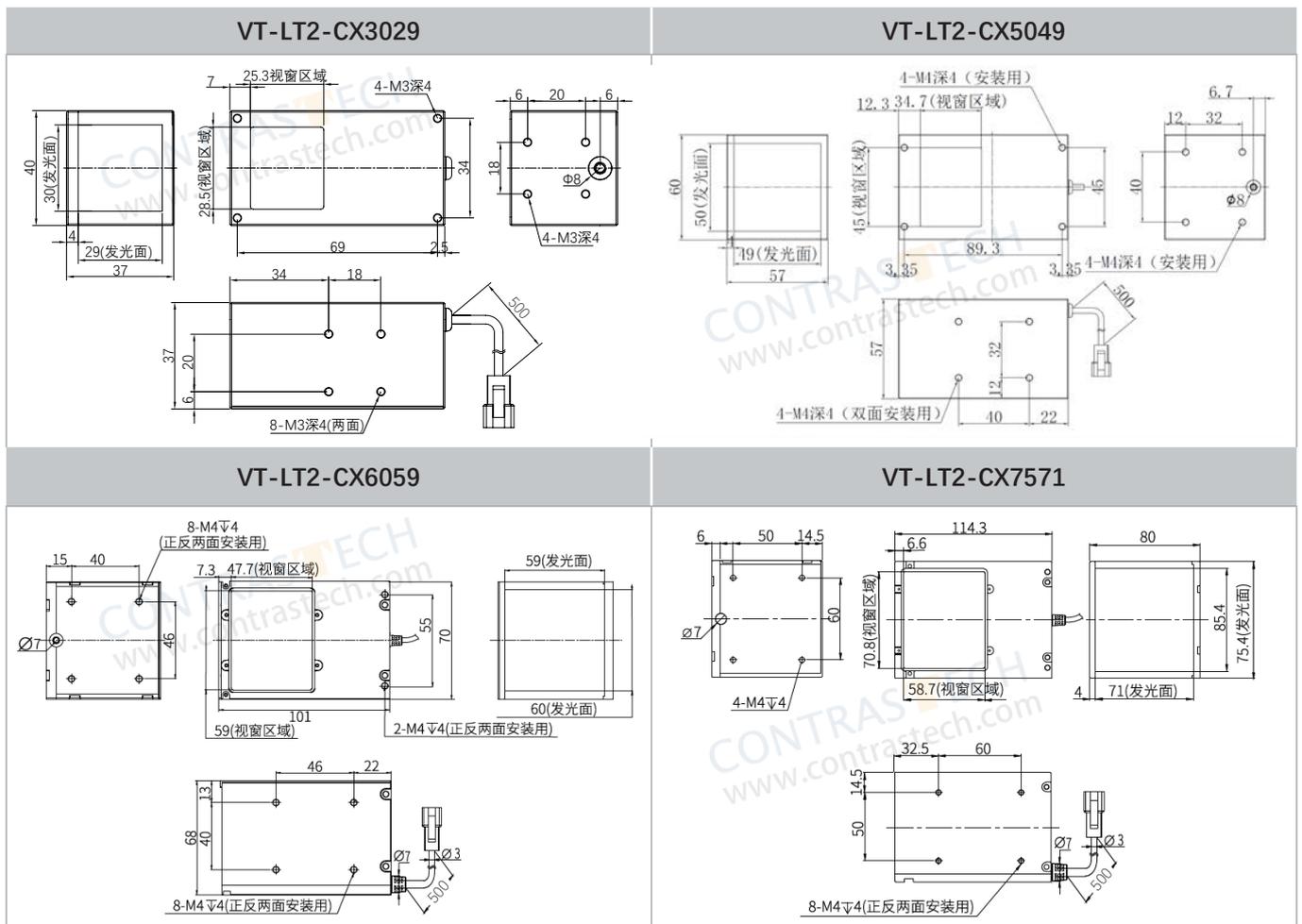


Explanation of Model Code

VT-LT2-CX	50	50	(W/B/G/R)
Series	Emitting Length	Emitting Width	Color

Model No.	Optical spec.		Electrical specifications (GREEN / NIR / UV Accept custom)			Dimensions		
	Light Area		Supply Voltage (v)	Power cons. (w) ●	Power cons. (w) ● ○ ●	Length (mm)	Width (mm)	Height (mm)
Length (mm)	Width (mm)							
VT-LT2-CX3029	30	29	24	1.7	2.22	70	40	38
VT-LT2-CX5049	50	49	24	5.5	5.5	91	60	58
VT-LT2-CX6059	60	59	24	6.1	12.1	101	70	68
VT-LT2-CX7571	75.4	71	24	7.8	14.4	115	85.4	80

Dimension (mm)



Dome Shape Illumination

DM Series (Standard with diffuser panel)

Features

- High density SMD LED beads provide high brightness light, which become uniform through dome-shaped reflective panel.
- With large irradiated area and high uniformity, it is suited for imaging of curved objects and specular surface.

Applications

- Visual/color/text determination inspections on glossy surfaces, curved surfaces, or uneven surfaces.
- Inspection for engraving/damage/stains on stain finishing.
- Inspection for parts on circuit boards, etc...



Examples of Dome Light Images



Lights: DM116W

Imaging of seasoning packet



Lights: DM175W

Imaging of smudginess on paper-cup surface



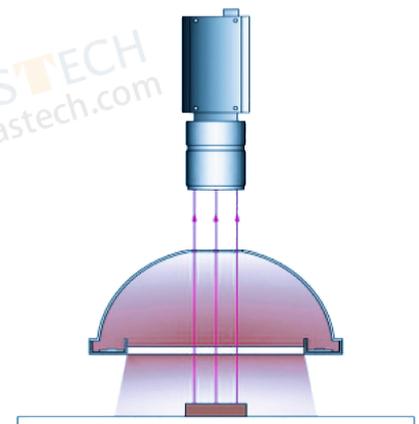
Lights: DM198W

Imaging of smudginess on paper-cup surface

Common Specifications

Input voltage	24 VDC
Connector	SMR-03V-B
Wavelength range	Red: 620-630nm; Blue: 460-475nm; Green: 520-530nm;
Color temperature (white)	6000-7500K
Operating environment (indoor)	Temperature: 0~40°C Humidity: 20% to 85% RH (with no condensation)
Life time	White:30,000hrs, Red: 60,000hrs (Depends on the operating environment, not a guarantee)
Case material	Aluminum alloy, Resin

Illumination Structure

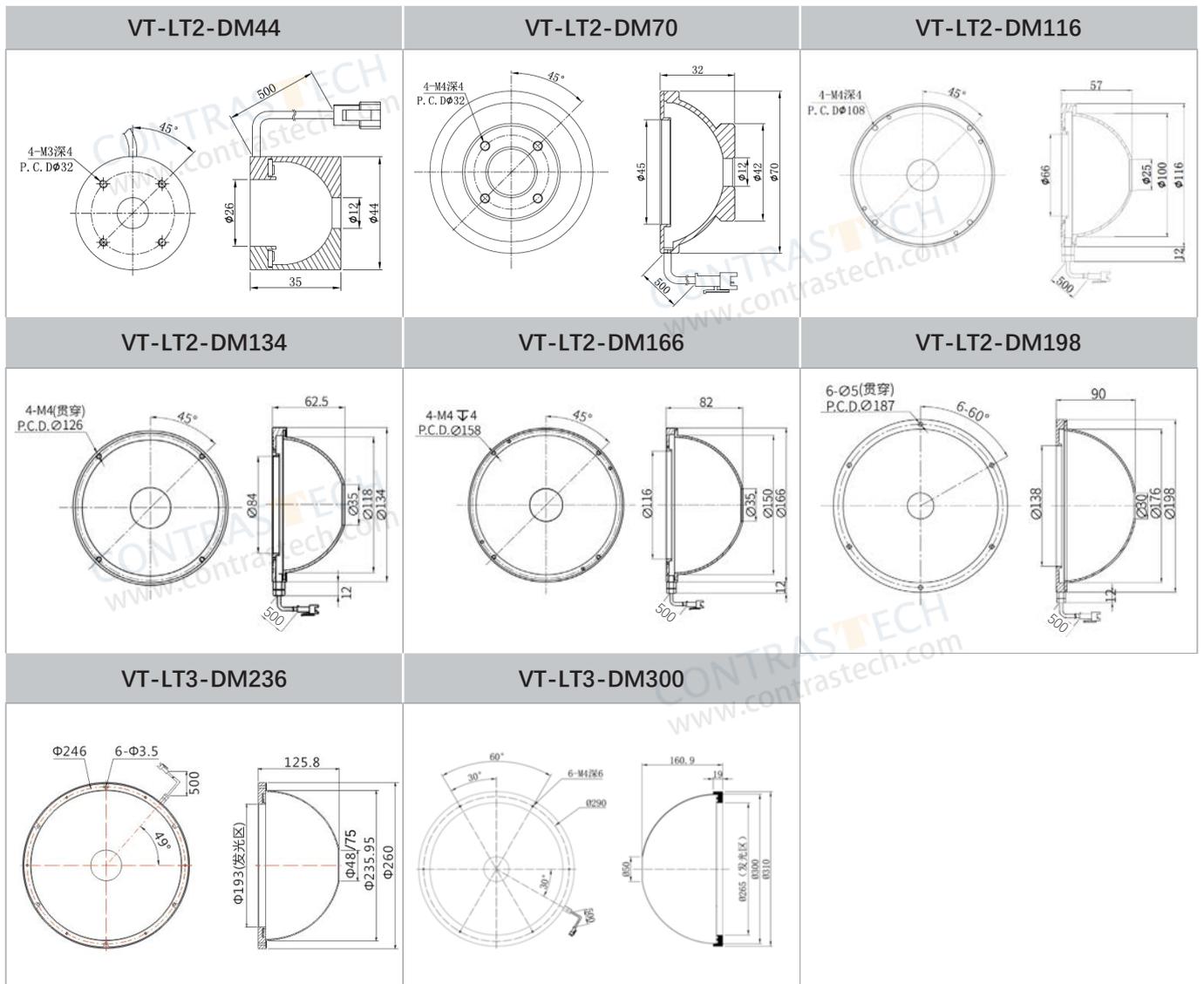


Explanation of Model Code

VT-LT2-DM	116	(W/B/G/R)
Series	Outer Diam.	Color

Model No.	Optical spec.	Electrical specifications (NIR / UV Accept custom)			Dimensions	
		Light Area (mm)	Supply Voltage (v)	Power cons. (w)	Power cons. (w)	Outer diam. (mm)
VT-LT2-DM44	Ø26	24	2.6	6.6	44	12
VT-LT2-DM70	Ø45	24	2.2	3.7	70	12
VT-LT2-DM116	Ø66	24	7.9	13.8	116	25
VT-LT2-DM134	Ø84	24	10.0	16.6	134	35
VT-LT2-DM166	Ø116	24	13.7	22.1	166	35
VT-LT2-DM198	Ø138	24	16.0	25.9	198	30
VT-LT3-DM236	Ø193	24	31	41	236	48/75
VT-LT3-DM300	Ø265	24	36	48	300	50

Dimension (mm)



Shadowless Ring Illumination

WR Series (Standard with diffuser panel)

Ring lights provide uniform surface illumination.

Features

- LED beads are evenly distributed around. The light penetrate the LGP and become uniform and diffusible.
- This series are widely used in the occasion that reflective light or light spots are not welcome.

Applications

- Check cigarette case printing
- Latness of diode pins
- Haracters on IC chips

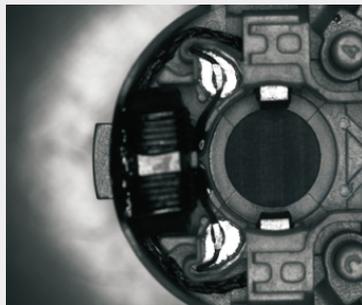


Examples of Shadowless Ring Light Images



Lights:WR100W

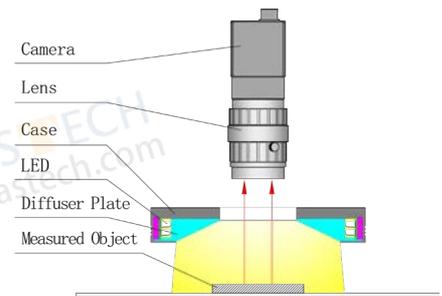
Imaging of CAN's bottom



Lights: WR48W

Imaging of soldering on plastic parts

Illumination Structure



Common Specifications

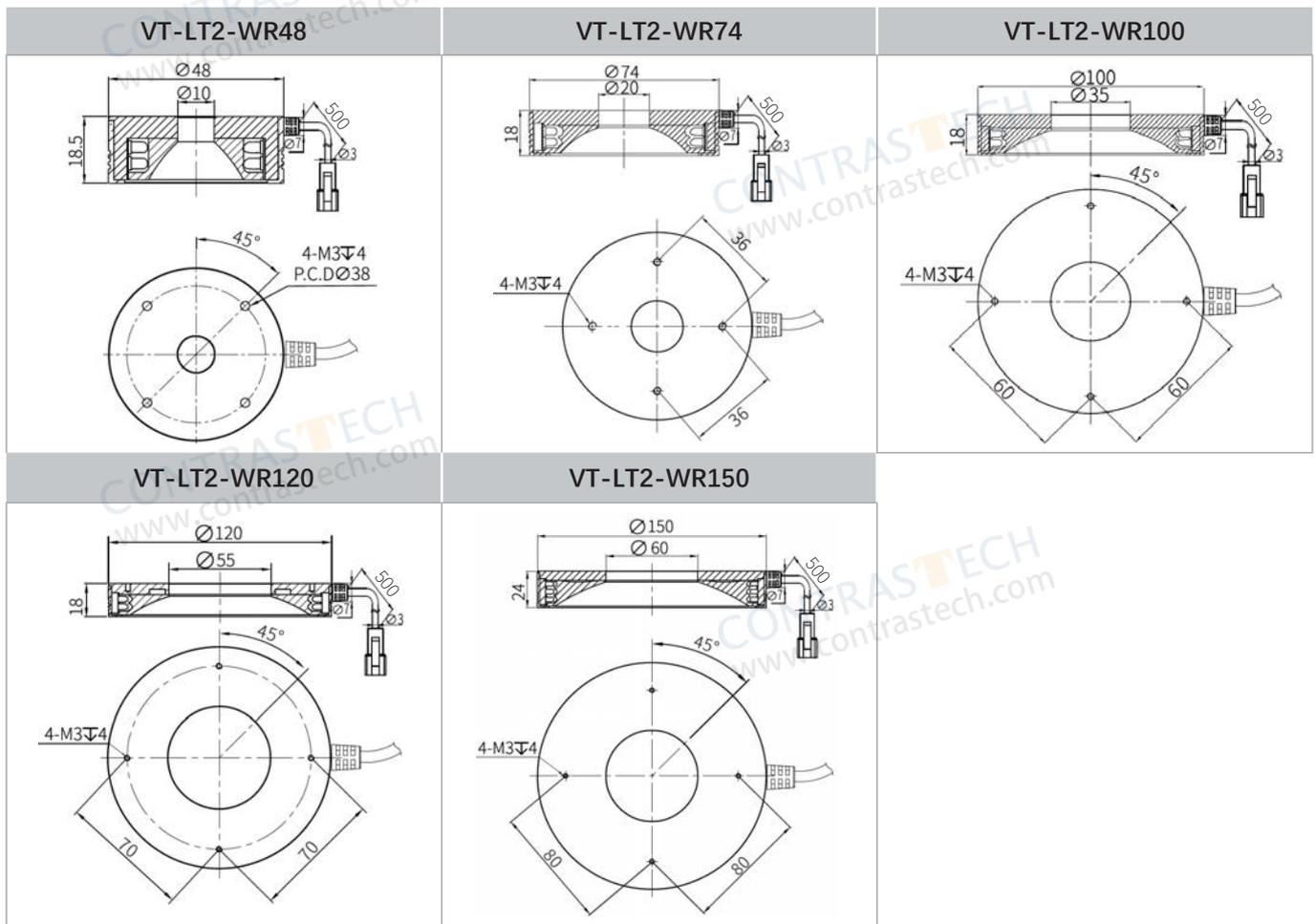
Input voltage	24 VDC
Connector	SMR-03V-B
Wavelength range	Red: 620-630nm; Blue: 460-475nm; Green: 520-530nm;
Color temperature (white)	6000-7500K
Operating environment (indoor)	Temperature: 0~40°C Humidity: 20% to 85% RH (with no condensation)
Life time	White:30,000hrs, Red: 60,000hrs (Depends on the operating environment, not a gurantee)
Case material	Aluminum alloy, Resin

Explanation of Model Code

VT-LT2-WR	116	(W/B/R)
Series	Outer Diameter	Color

Model No.	Electrical specifications (GREEN / NIR / UV Accept custom)			Dimensions		
	Supply Voltage (v)	Power cons. (w)	Power cons. (w) ● ○ ●	Outer diam. (mm)	Inner diam. (mm)	Height (mm)
VT-LT2-WR48	24	2.2	3.8	48	10	18.5
VT-LT2-WR74	24	3.6	6.3	74	20	18
VT-LT2-WR100	24	7.4	9.7	100	35	18
VT-LT2-WR120	24	9.9	12.7	120	55	18
VT-LT2-WR150	24	15.0	20.2	150	60	24

Dimension (mm)



Shadowless Ring Illumination- Low Angle

LWR Series (Standard with diffuser panel)

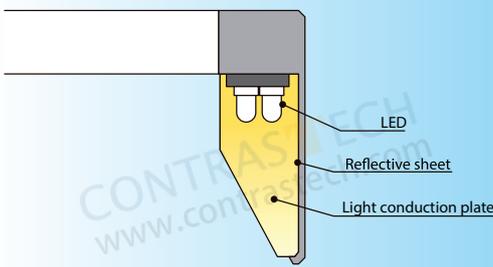
Low angle ring lights provide diffused lighting.

Features

- High density LED is distributed perpendicularly.
- Special material is used to diffuse light.
- Widespread use in inspection of object edge and scratches.



Cross-sectional View of an LWR-series Light



Applications

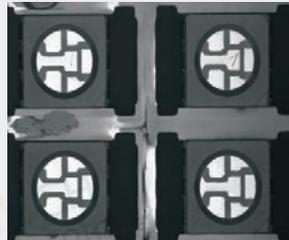
- Low angle uniform illumination and dark field lighting.
- Inspection of scratches on the workpiece.
- Plastic surface optical character recognition, capacitor character recognition.

Examples of Shadowless Low Angle Ring Light Images



Lights:LWR50W

Imaging of characters on capacitance



Lights: LWR100W

Imaging of interior of LED

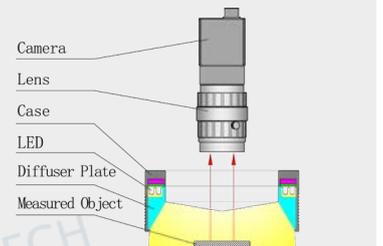


Lights:LWR180B

Imaging of rubber cushion

Illumination Structure

The object is illuminated from a low angle by uniform diffuse light through the light conduction plate.



Common Specifications

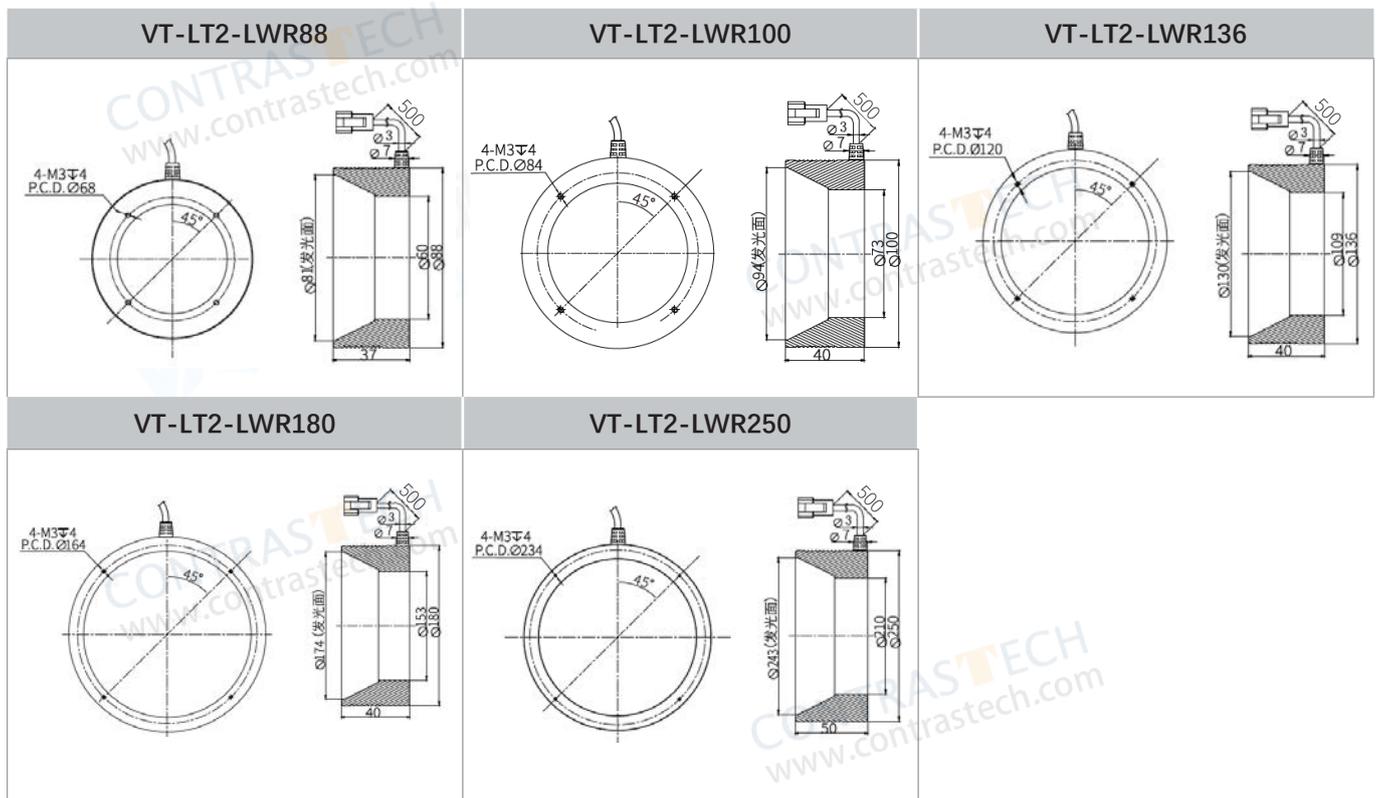
Input voltage	24 VDC
Connector	SMR-03V-B
Wavelength range	Red: 620-630nm; Blue: 460-475nm; Green: 520-530nm;
Color temperature (white)	6000-7500K
Operating environment (indoor)	Temperature: 0~40°C Humidity: 20% to 85% RH (with no condensation)
Life time	White:30,000hrs, Red: 60,000hrs (Depends on the operating environment, not a guarantee)
Case material	Aluminum alloy, Resin

Explanation of Model Code

VT-LT2-LWR	116	(W/B/R)
Series	Outer Diameter	Color

Model No.	Optical spec.	Electrical specifications (GREEN / NIR / UV Accept custom)			Dimensions		
	Light Area (mm)	Supply Voltage (v)	Power cons. (w) ●	Power cons. (w) ● ○ ●	Outer diam. (mm)	Inner diam. (mm)	Height (mm)
VT-LT2-LWR88	Ø81	24	4.6	7.5	88	60	37
VT-LT2-LWR100	Ø94	24	4.9	7.8	100	73	40
VT-LT2-LWR136	Ø130	24	6.6	12.4	136	109	40
VT-LT2-LWR180	Ø174	24	9.5	13.8	180	153	40
VT-LT2-LWR250	Ø243	24	13.1	32.8	250	210	50

Dimension (mm)



Shadowless Ring Illumination - High Angle

GWR Series (Standard with diffuser panel)

Features

- The lights achieve a uniform region with high luminance by using unique illumination mechanism.
- Compact design, convenient to installation.

Applications

- Inspection of defects on unfairness specular surface, food and medicine packages, the welding points of electronic components, etc..

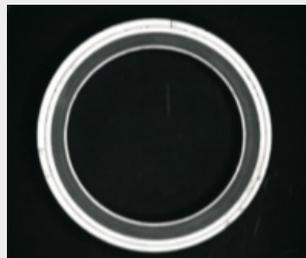


Examples of Shadowless GWR Light Images



Lights: GWR150W

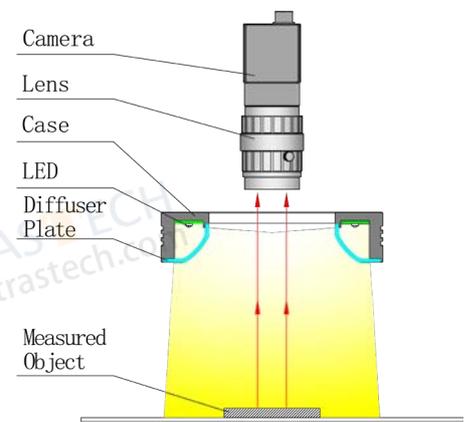
Imaging of keyboard and inner buttons



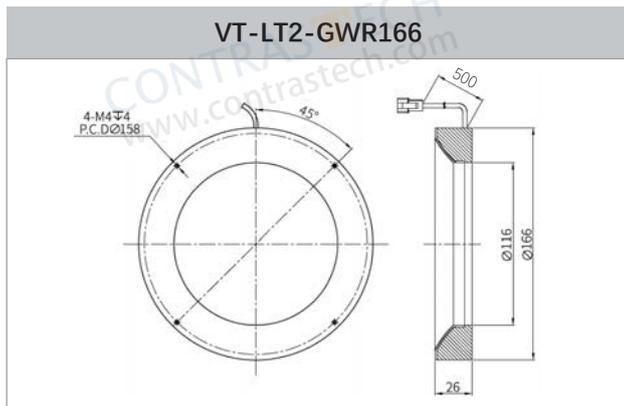
Lights: GWR150W

Imaging of cambered surface

Illumination Structure



Dimension



Explanation of Model Code

VT-LT2-GWR	60	(W/B/R)
Series	Outer Diameter	Color

Model No.	Electrical specifications (GREEN / NIR / UV Accept custom)			Dimensions		
	Supply Voltage (v)	Power cons. (w)	Power cons. (w)	Outer diam. (mm)	Inner diam. (mm)	Height (mm)
VT-LT2-GWR166	24	13.2	19.2	166	116	26

Square Illumination

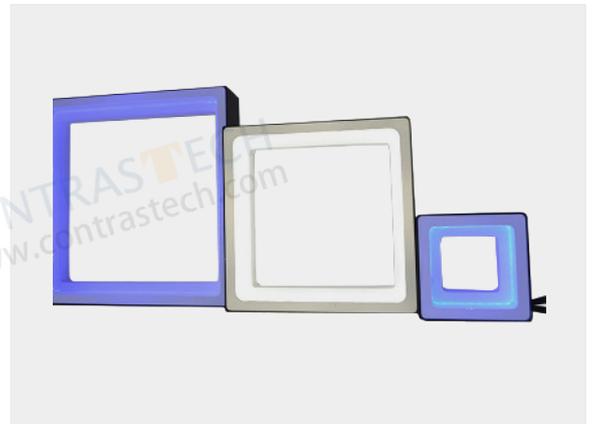
MT Series (Standard with diffuser panel)

Features

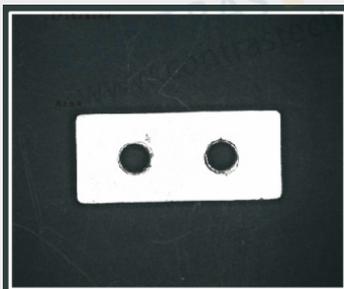
- The LED beads are evenly distributed around four sides.
- Diffusion light come through light guiding plate.

Applications

- Inspection of cigarette cases, diode pins flatness characters on IC pins, metal surface scratches, BGA welding spot, etc.
- Perfect for square workpieces, it can detect the outline of corners.

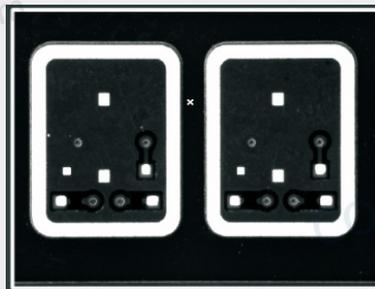


Examples of Shadowless MT Light Images



Lights: MT48B

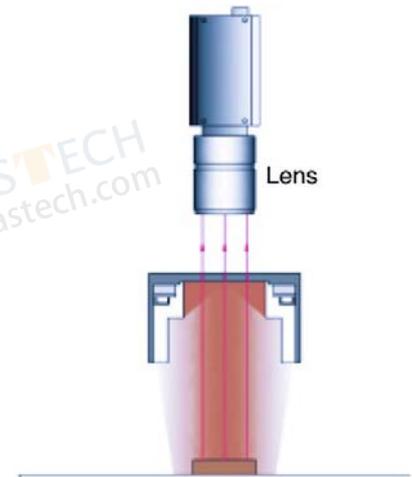
Imaging of outline and surface details of workpiece



Lights: MT48B

Imaging of outline and internal bumps of workpiece

Illumination Structure



Common Specifications

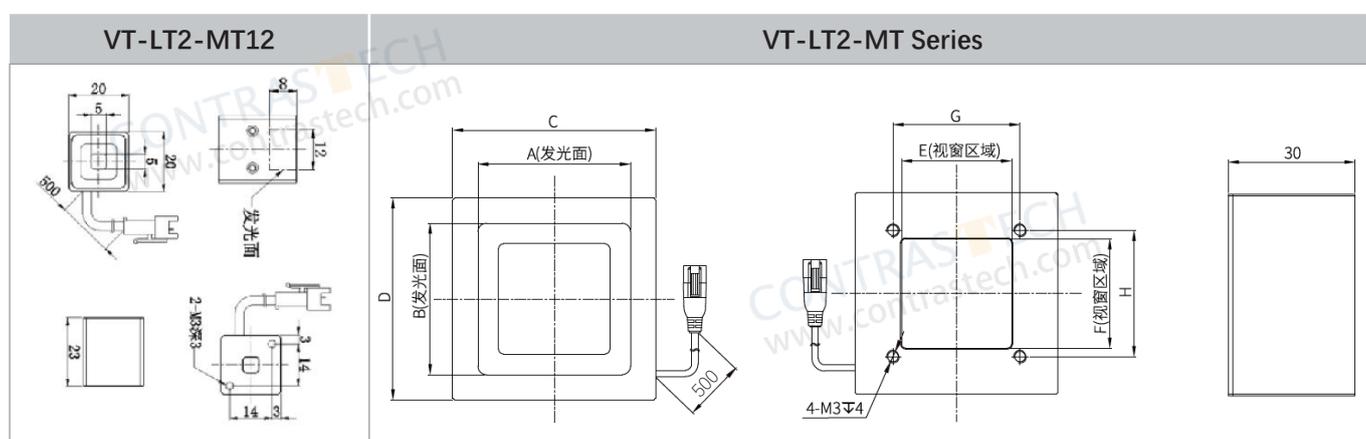
Input voltage	24 VDC
Connector	SMR-03V-B
Wavelength range	Red: 620-630nm; Blue: 460-475nm; Green: 520-530nm;
Color temperature (white)	5800-7500K
Operating environment (indoor)	Temperature: 0~40°C Humidity: 20% to 85% RH (with no condensation)
Life time	White:30,000hrs, Red: 60,000hrs (Depends on the operating environment, not a gurantee)
Case material	Aluminum alloy, Resin

Explanation of Model Code

VT-LT2-MT	60	(W/B/R)
Series	Lighting Area-Length	Color

Model No.	Optical spec.		Inner Hole Size (mm)	Working Distance (mm)	Electrical specifications (GREEN / NIR / UV Accept custom)			Dimensions		
	Length (mm)	Width (mm)			Recommend WD (mm)	Supply Voltage (v)	Power cons. (w) ● ● ●	Power cons. (w) ● ○ ●	Length (mm)	Width (mm)
VT-LT2-MT12	12	8	5×5	-	24	-	-	20	20	23
VT-LT2-MT20	20	20	10×10	5	24	2.2	2.9	32	32	30
VT-LT2-MT36	36	36	26×26	5	24	4.2	6.2	48	48	30
VT-LT2-MT63	63	63	53×53	12	24	9.9	9.4	75	75	30
VT-LT2-MT84	84	84	74×74	15	24	12.9	11.5	96	96	30
VT-LT2-MT108	108	108	98×98	25	24	15.2	16.8	120	120	30
VT-LT2-MT187	187	107	177×97	35	24	15.5	21.8	200	120	30

Dimension (mm)



Model No.	Dimensions							
	A	B	C	D	E	F	G	H
VT-LT2-MT20	20	20	32	32	10	10	15	15
VT-LT2-MT36	36	36	48	48	26	26	30	30
VT-LT2-MT63	63	63	75	75	53	53	57	57
VT-LT2-MT84	84	84	96	96	74	74	78	78
VT-LT2-MT108	108	108	120	120	98	98	102	102
VT-LT2-MT187	107	187	120	200	97	177	102	180

Tunnel shadowless Illumination

T Series (Standard with diffuser panel)

Features

- Excellent shadowless effect
- Wide lighting area
- Excellent uniformity

Applications

- Especially suitable for detecting surface reflective and irregular objects
- Metal surface inspection



Examples of T Light Images



Metal sign detection

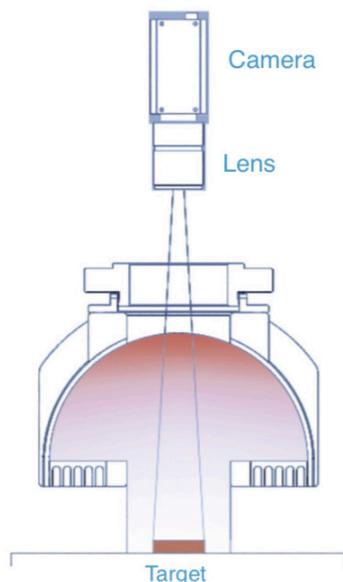


Metal fork inspection

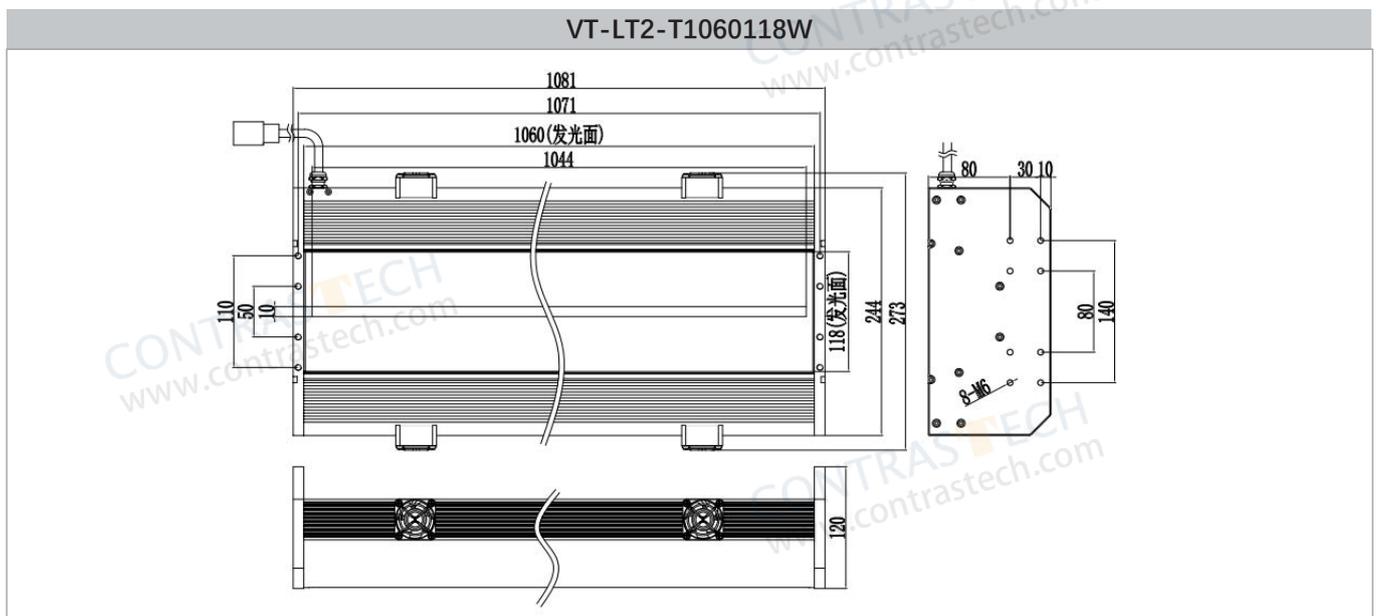
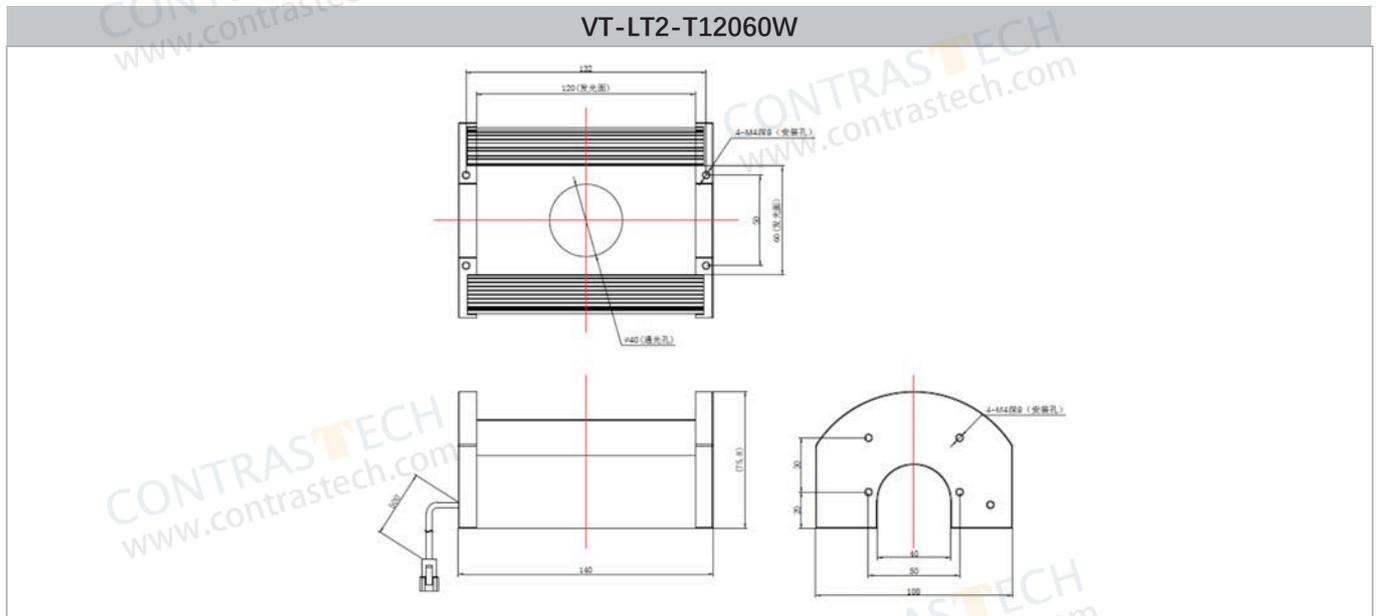


Food packaging can exterior inspection

Lighting Structure



Model No.	Light Area (mm)		Voltage (v)	Power cons. (w)	Dimensions		
	Length	width			Outer diam. (mm)	Inner diam. (mm)	Height (mm)
VT-LT2-T12060W	120	60	24	10	140	108	87.3
VT-LT2-T1060118W	1060	118	24	270	1081	273	120



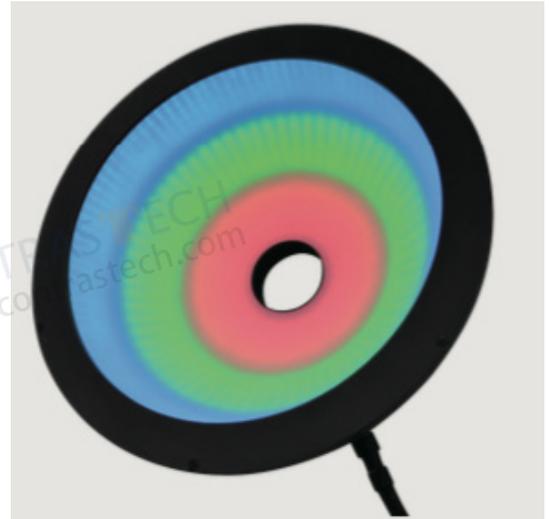
Three-color Illumination AOI Series

Features

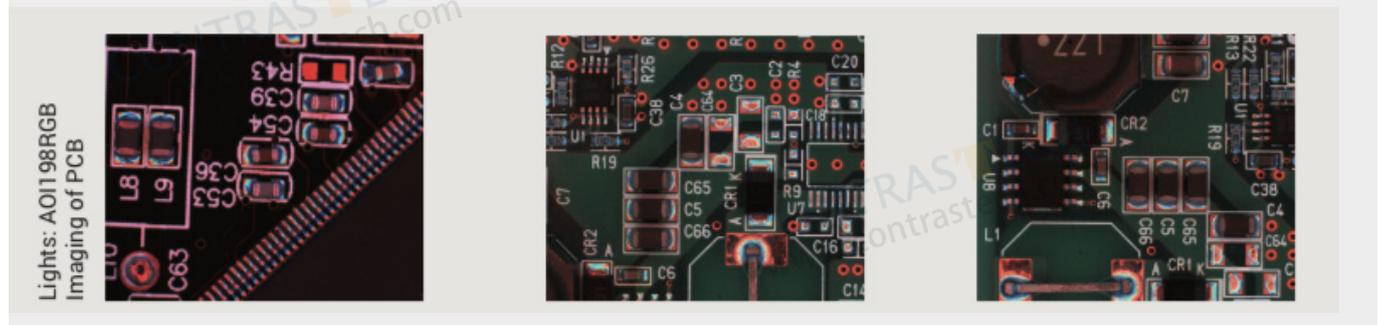
- The angles of red/green/blue/white color LED beads can be customized.
- Each color beads can be designed to be controlled separately.

Applications

- PCB soldering inspection (applied to inspecting missing/wrong / inclined parts, insufficient/excessive/ no soldering, and other defects in PCB industry).
- Surface defects inspection for multiple layers.



Examples of AOI Light Images



Lighting Structure

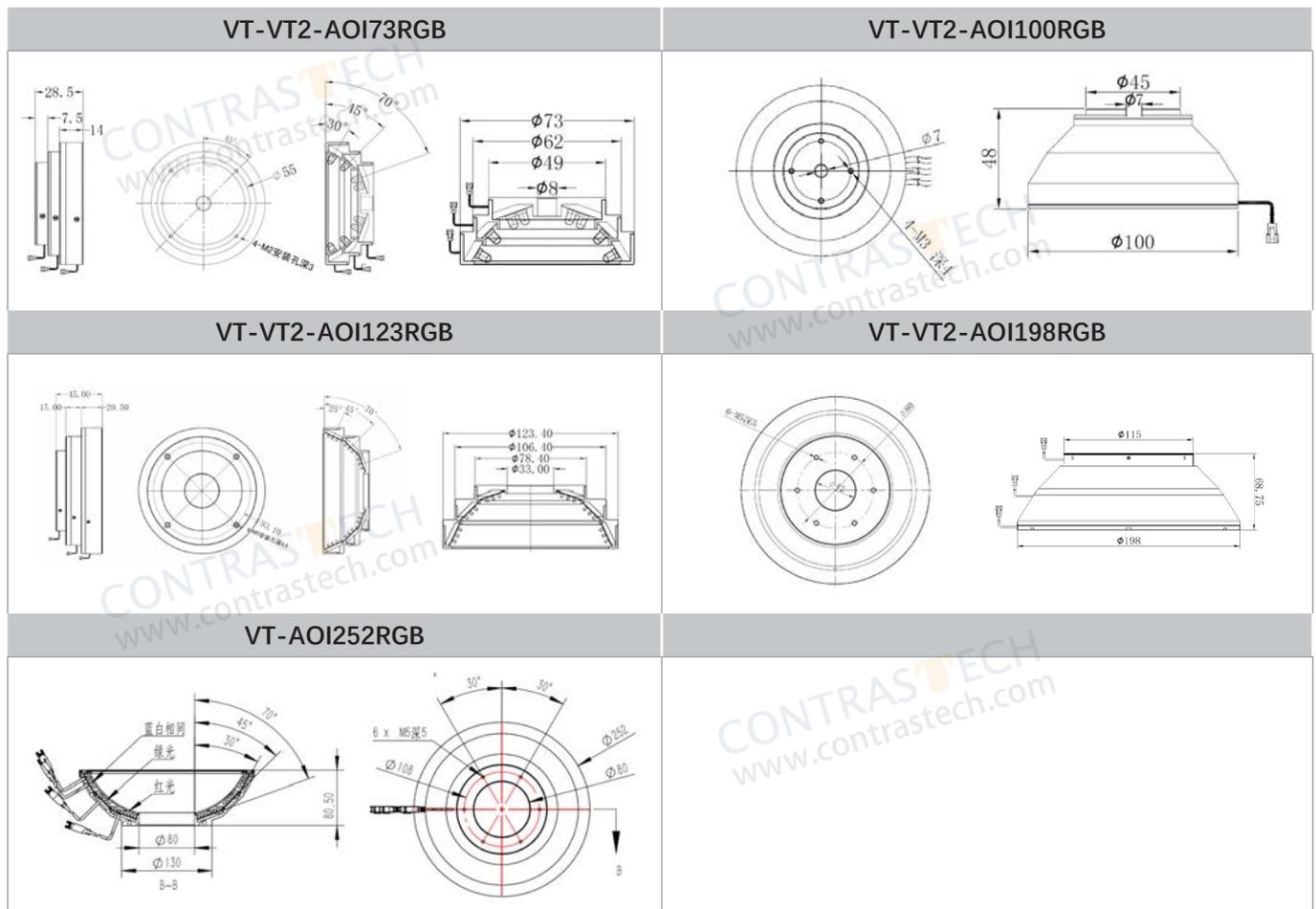


Explanation of Model Code

VT-AOI	123	RGB
Series	Outer Diam	Color

Model No.	Electrical specifications (NIR / UV Accept custom)					Dimensions		
	Supply Voltage (v)	Power cons. (w) ●	Power cons. (w) ●	Power cons. (w) ●	Power cons. (w) ○	Outer diam. (mm)	Inner diam. (mm)	Height (mm)
VT-VT2-AOI73RGB	24	4	5	6	/	73	8	28.5
VT-VT2-AOI100RGB	24	2	5	6	/	100	7	48
VT-VT2-AOI123RGB	24	4.5	7.5	9	/	123	33	45
VT-VT2-AOI198RGB	24	10	12	14	/	198	42	68.8
VT-AOI252RGB	24	10	16	16	16	252	80	80.5

Dimension (mm)



Multi-Spectrum Lighting MSR Series

Features

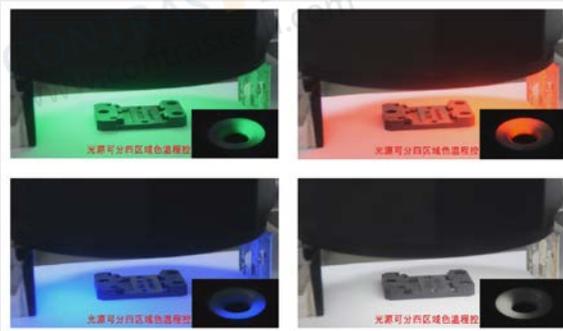
- The lighting includes lamp beads in 5 bands of red, green, blue, white and infrared, which can realize the color temperature adjustment of 1000-10000K color temperature (interval 200K).

Applications

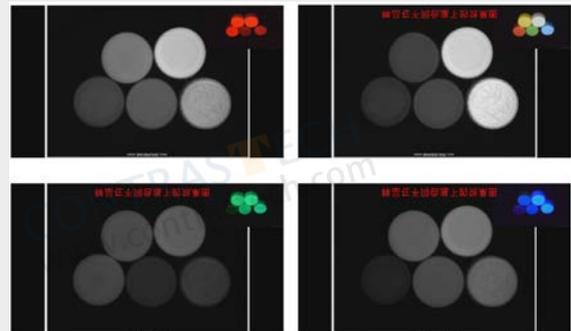
- Photometric Stereo Detection
- Highlight local 3D changes
- Extract 3D information of sample surface
- Sample color difference detection
- Realize any wavelength composite effect



Examples of MSR Light Images



Photometric Stereo Detection



Sample color difference detection

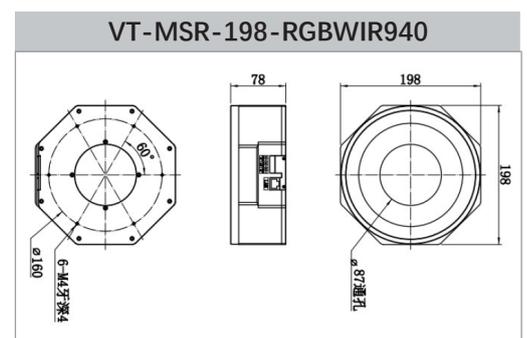
Specifications

Model No.	VT-MSR-198-RGBWIR940
Illumination Color	Multicolor (can be customized)
Illumination Color Temp.	1000-10000K
Illumination Method	Always-on light-emitting mode / Triggered light-emitting mode
Power	>35W
Input Power	DC12V/3.5A
Trigger Input	DC5-24V ≤6mA
Trigger Out	DC12V ≤10mA
Communication Method	Ethernet (RJ-45 port)
Environmental (Working)	Temperature:0-40°C ; Humidity:20-85%RH(non-condensing)
Environmental (Storage)	Temperature:-20-60°C ; Humidity:20-85%RH(non-condensing)

Explanation of Model Code

VT-MSR	198	R G B W I R	940
Series	Outer Diam	Including R, G,B, W, IR (MSR-198 are band pass) five color	Wavelength

Dimension (mm)



Fiber LED Lights Source Unit CO Series

Features

- Unique optical concentrator technology
- No fan design, low heat, high stability
- Molded products with compact appearance
- Able to replace 100W halogen light source

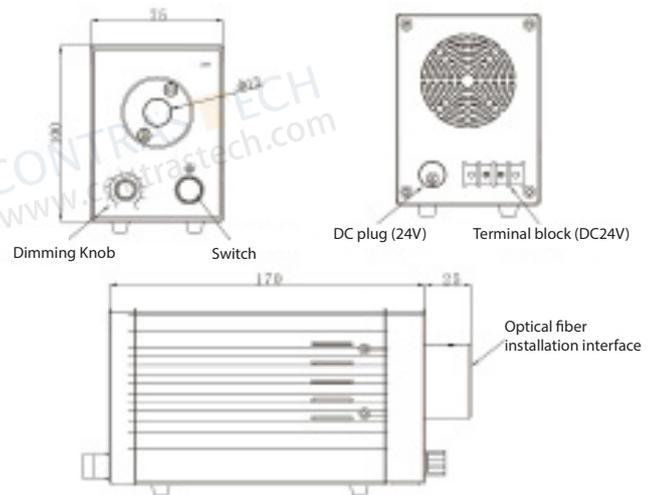
Applications

- Semiconductor equipment
- Electronic device equipment
- Industrial/scientific/medical microscope applications



Model	CO-20W
Light Guide Outlet Diameter	8mm
Brightness	Approximate 300 KXL
Emitting Color	White(red, blue and green are optional)
Color Temperature	6500-7500K
Input Voltage	DC24V
Power Consumption	10W
Operating Environment (Indoor only)	Temperature: 0 to 40°C , Humidity: 20% to 85%RH (with no condensation)
Outside Dimension	170mm ×75mm × 100mm
Weight	1.5kg
Info.	*1: Test parameter : 100% brightness, emitting surface 8mm, workingdistance 50mm. *2: Depending on the operating environment, not a guarantee.

Dimension (mm)



Multiple Power Inputs



24V DC Power



AC 100-240V Input

Schematic Diagram



Optical Fiber Adaptor



Single Optical Fiber



Hard Double Optical Fiber

Telecentric Illumination

TI Series

Features

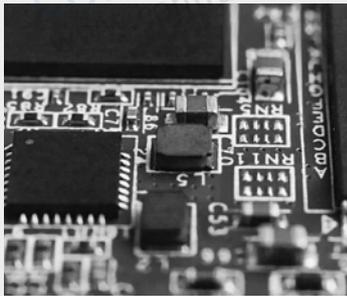
- Complete light coupling, increased distance between object and illumination source;
- Border effects removal, offer higher edge contrast and higher measurement accuracy;
- Field depth and telecentricity improvement.

Applications

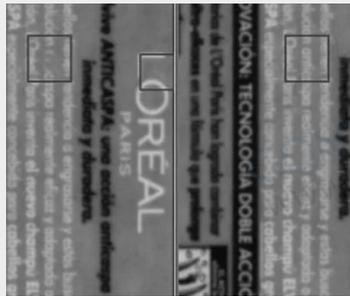
- Inspection of LCD, TP screen, LTO circuit, PCB circuit;
- Appearance inspection of food or medicine.



Examples of Telecentric Light Images

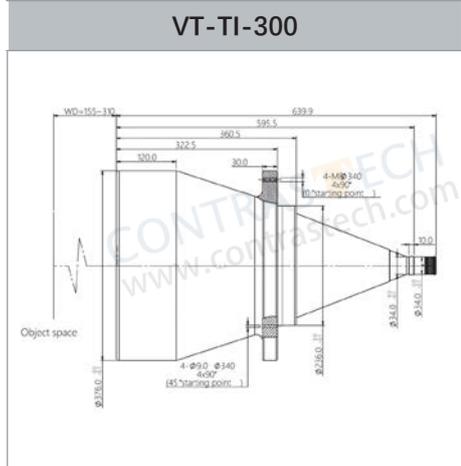
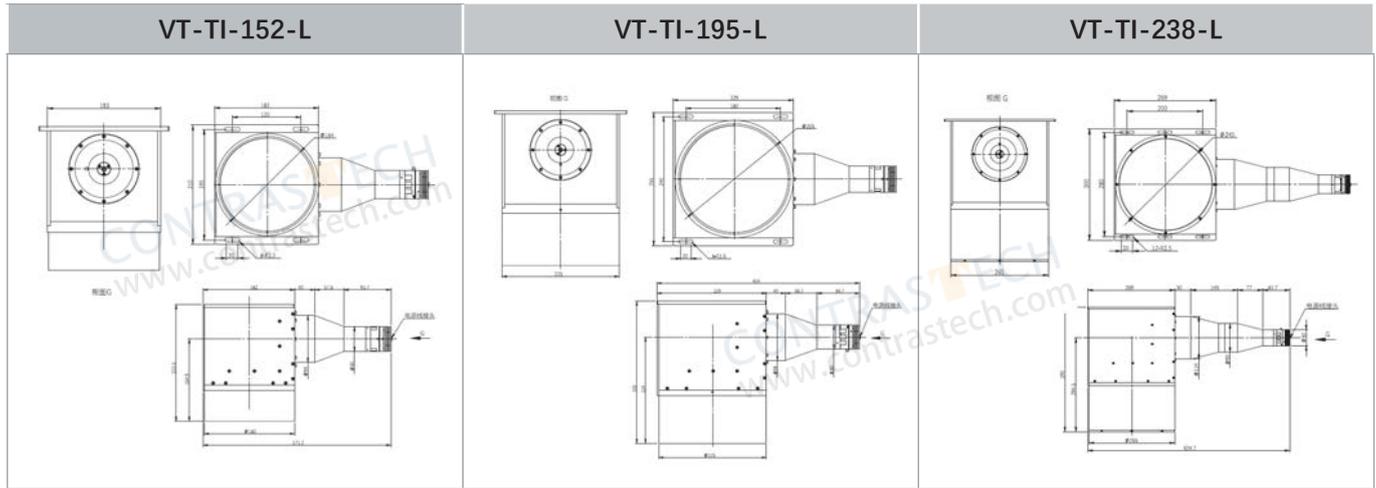


PBC detection



Printing defect detection

Model No.	EFL (mm)	Power cons. (W)	Supply Voltage (v)	Max Current (mA)	Effective Illum. Dia. (mm)	Recommend WD (mm)	WD Variation Range (±mm)	Recommended Collimation (°)	Recommended Parallelism (°)
VT-TI-20	100.000	3	3	1000	20	110	50	0.52	0.060
VT-TI-37	79.300	5	24	208	37	56	40	1.73	3.480
VT-TI-50	-	3	3	1000	50	110	34	0.29	0.048
VT-TI-60	131.400	5	24	208	60	90	66	1.05	2.556
VT-TI-70	-	3	3	1000	70	150	77	0.33	0.060
VT-TI-80	160.300	5	24	208	80	120	80	0.86	1.800
VT-TI-80-L	160.300	5	24	208	80	120	80	0.86	1.800
VT-TI-100-L	220.700	5	24	208	100	165	110	0.62	1.740
VT-TI-120	-	3	3	1000	120	250	47	0.55	0.048
VT-TI-152-L	418.992	5	24	208	152	419	209	0.33	0.144
VT-TI-195-L	508.382	5	24	208	195	508	254	0.27	0.173
VT-TI-238-L	753.723	5	24	208	238	751	377	0.18	0.079
VT-TI-300	-	1W / 3W	5V(External Controller)/ 12V(Direct Current)	700	300	155-310	155-310	0.11	0.09



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UV Illumination

Features

- Wide illumination range and uniform illumination;
- Concentrated light for narrow irradiation, long irradiation distance and high radiation intensity
- High-power UV lamp beads, forming high-output, high-stable UV lighting

Applications

- Glue detection (containing fluorescent substances)
- Fluorescent character, barcode, QR code recognition
- Detection of UV glue
- Small device bonding
- Defect detection such as minor scratches and bumps on the appearance of products



IR Illumination

Features

- Wavelength and size can be customized flexibly
- High-power infrared lamp beads, forming high-output, high-stable infrared lighting

Applications

- Transmissive presence detection
- Medicine (vascular network identification, eye positioning)
- Packaging (see-through plastic packaging inspection)
- Electronics, Semiconductors
- Character reading of plastic products



Wavelength (including IR and UV illumination)
and size are available to be customized

Waterproof/Anti-corrosion Illumination

Features

- Waterproof certified, suitable for a variety of harsh environments.

Applications

- Application field
- Corrosive environment
- Underwater test operations
- Medical testing



All models available to customize waterproof / anti-corrosion version

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-LT3-24300PWLI-1	Constant Voltage	100V-240V	24V	≤ 300W	12.5A	1	AM20K4Z	✓
VT-LT3-48600PWLI-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

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