



CONTRASTECH

Machine Vision LED Illumination

Machine Vision

Bottom Flat Backlight Illumination

# CONTRASTTECH LIGHTS

The Leader and Innovator in Machine Vision Lighting



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## 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.

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**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**

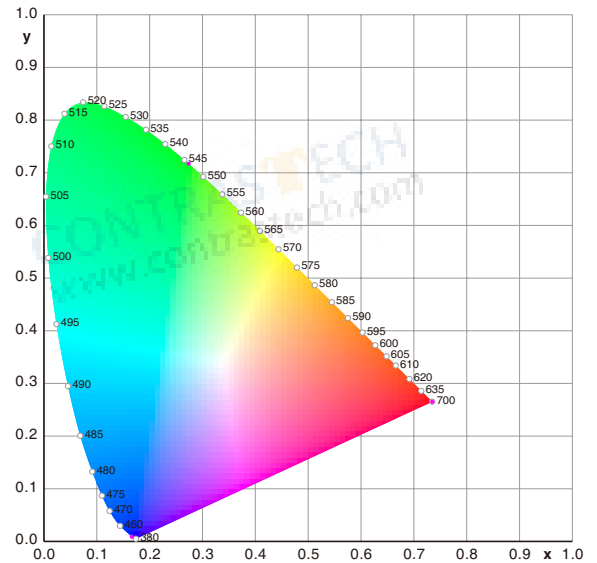
1 PC OEM / ODM available, including but not limited to IP67 / Anticorrosion requirement or IR / UV spectrum request

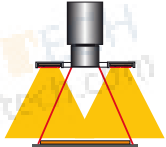
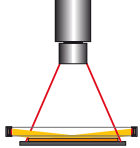
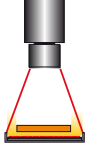
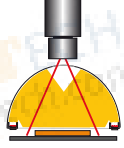
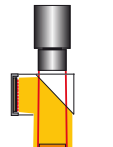
## USEFUL INFORMATION

### Color Wavelength

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

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



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

# 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.

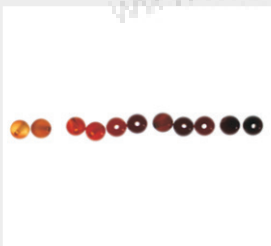
### Applications

- 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

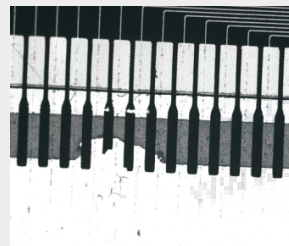
**Imaging of agates**



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

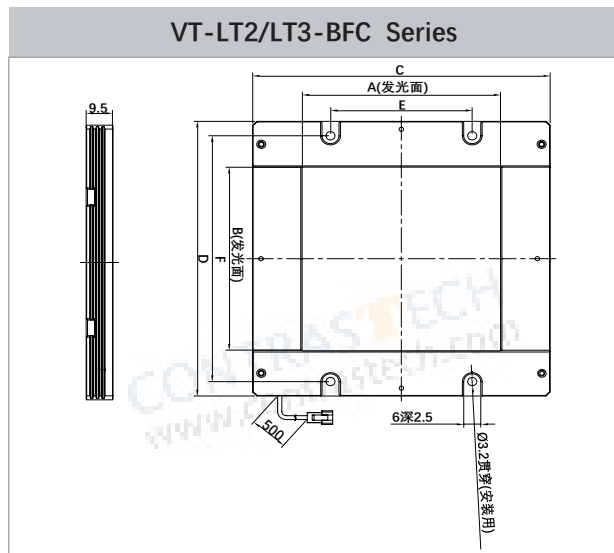
Input voltage	24 VDC
Wavelength range	Red: 620-630nm; Blue: 460-475nm; Green: 520-530nm;
Color temperature (white)	5800-7500K
Operating environment (indoor)	Temperature: 0~40°C Humidity: 20% to 85% RH (with no condensation)
Life time	White:30,000hrs, Red: 60,000hrs (Depends on the operating environment, 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

# Overview

## Light Controller Collection



Model	Drive Mode	Input Voltage	Output Voltage	Power	Output Current	Channel	Output Port	Adapt to line light
<b>Digital Controller</b>								
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	-	
<b>Stroboscopic Controller (With Brightening Module)</b>								
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	
<b>Line Source Stroboscopic Controller (With Brightening Module)</b>								
VT-LT3-PLU481000LI-6	Constant Voltage	100V-240V	48V	1000W	Total:25A Single:25A	6	16M-2	✓
<b>Line Source Controller</b>								
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	✓
<b>Analog Controller</b>								
VT-LT4-0506PWAC-2	Constant Current	88V-264V	5V	Total:6W Single:3W	/	2	SMP-03V	
VT-LT3-2460PWAC-4	Constant Voltage	100V-240V	24V	60W	Total:2.5A Single:2.5A	4	SMP-03V-BC	

Note: Default -Ver.B version voltage

# 2024

## HOT PRODUCTS

### Infrared Series Camera

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



NIR



SWIR



MWIR



LWIR

### High-Speed Camera

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



• iSpeedy Series



• iSpeedy SE Series

# Vision And More Available

让工业更智能，让视觉更简单！



SWIR Camera  
Industrial Camera



Macro Lens  
Industrial Lens



Microscope



System Solution  
No-programming Software



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