



CONTRASTECH

Machine Vision LED Illumination

Machine Vision
Square Illumination

CONTRAST^{TECH} 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 Lighs, 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.



BRIGHTER

Up to 10X brighter than normal lighting



BETTER

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



COST-COMPETITIVE

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



EXPERT

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



FLEXIBILITY

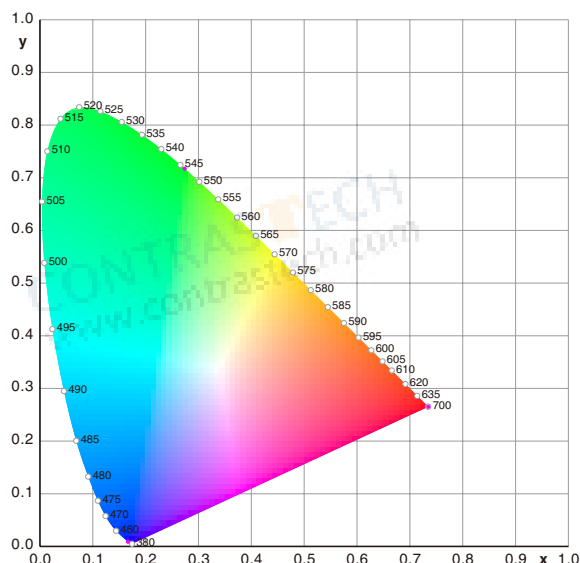
1 PC OEM / ODM available, including but not limited to IP67 / Anticorrosion requirement or IR / UV spectrum request


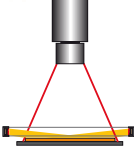
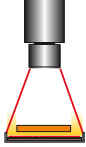
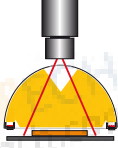
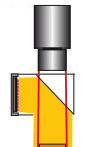
USEFUL INFORMATION

Color Wavelength

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

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



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

Square Illumination

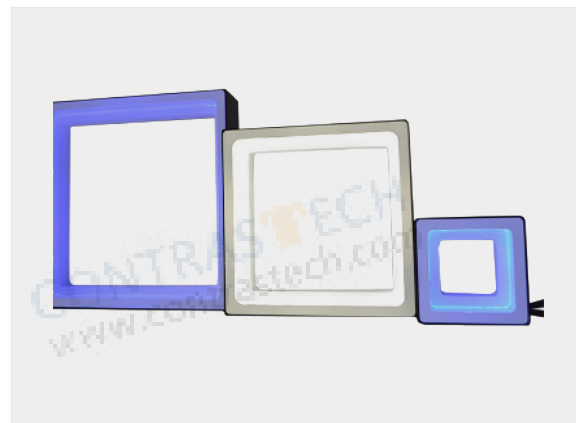
MT Series (Standard with diffuser panel)

Features

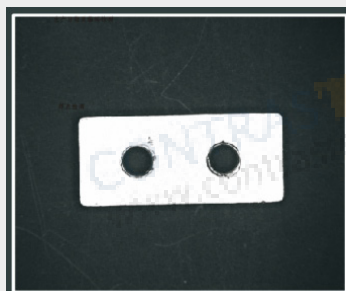
- The LED beads are evenly distributed around four sides.
- Diffusion light come through light guiding plate.

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.

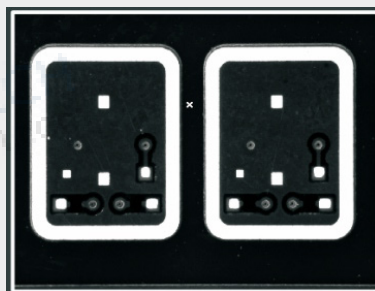


Examples of Shadowless MT Light Images



Lights: MT48B

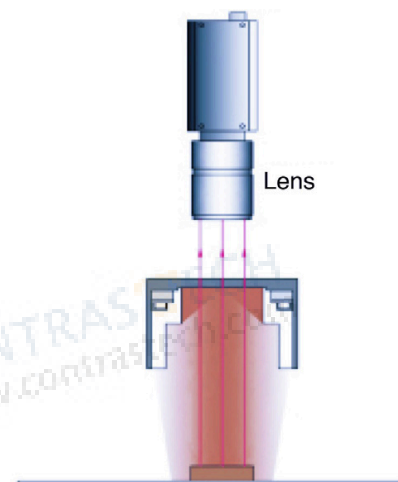
Imaging of outline and surface details of workpiece



Lights: MT48B

Imaging of outline and internal bumps of workpiece

Illumination Structure







Common Specifications

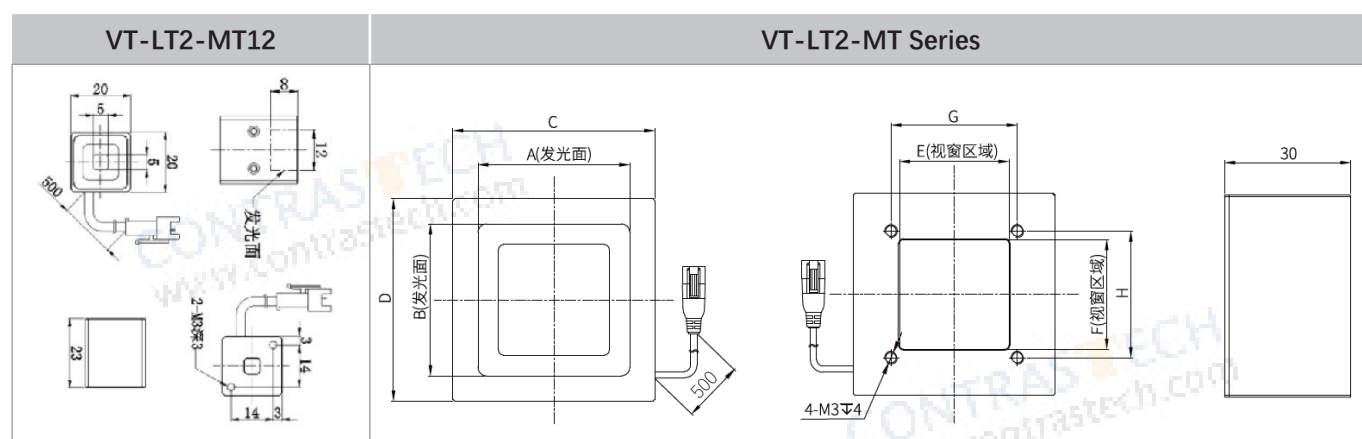
| | |
|--------------------------------|---|
| Input voltage | 24 VDC |
| Connector | SMR-03V-B |
| Wavelength range | Red: 620-630nm; Blue: 460-475nm; Green: 520-530nm; |
| Color temperature (white) | 5800-7500K |
| Operating environment (indoor) | Temperature: 0~40℃ Humidity: 20% to 85% RH (with no 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-MT | 60 | (W/B/R) |
| Series | Lighting Area-Length | Color |

| | Optical spec. | | | Working Distance | Electrical specifications (GREEN / NIR / UV Accept custom) | | | Dimensions | | |
|--------------|---------------|------------|----------------------|-------------------|---|--|--|-------------|------------|-------------|
| Model No. | Light Area | | Inner Hole Size (mm) | Recommend WD (mm) | Supply Voltage (v) | Power cons. (w)  | Power cons. (w)    | Length (mm) | Width (mm) | Height (mm) |
| | 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 |

Overview

Light Controller Collection



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

Note: Default -Ver.B version voltage

2024

HOT PRODUCTS

Infrared Series Camera

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



NIR



SWIR



MWIR



LWIR

High-Speed Camera

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



iSpeedy SE Series •



• iSpeedy Series

Vision And More Available

让工业更智能，让视觉更简单！



SWIR Camera
Industrial Camera



Macro Lens
Industrial Lens



Microscope



System Solution
No-programming Software



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Ver.24.05