



# Vision Datum

Machine Vision LED Illumination

Machine Vision

LED Shadowless illumination

## ABOUT US

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

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

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



# 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...

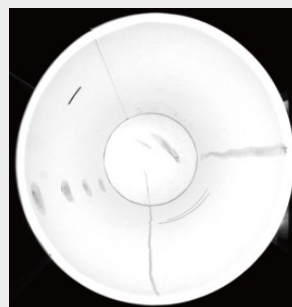


### Examples of Dome Light Images



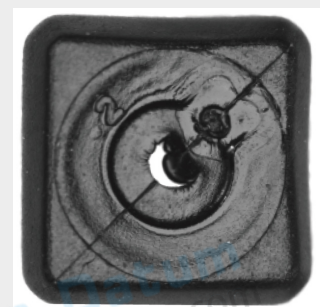
Lights: DM116W

Imaging of seasoning packet



Lights: DM175W

Imaging of smudginess on paper-cup surface



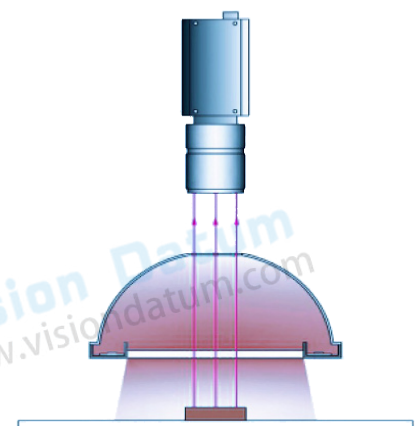
Lights: DM198W

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



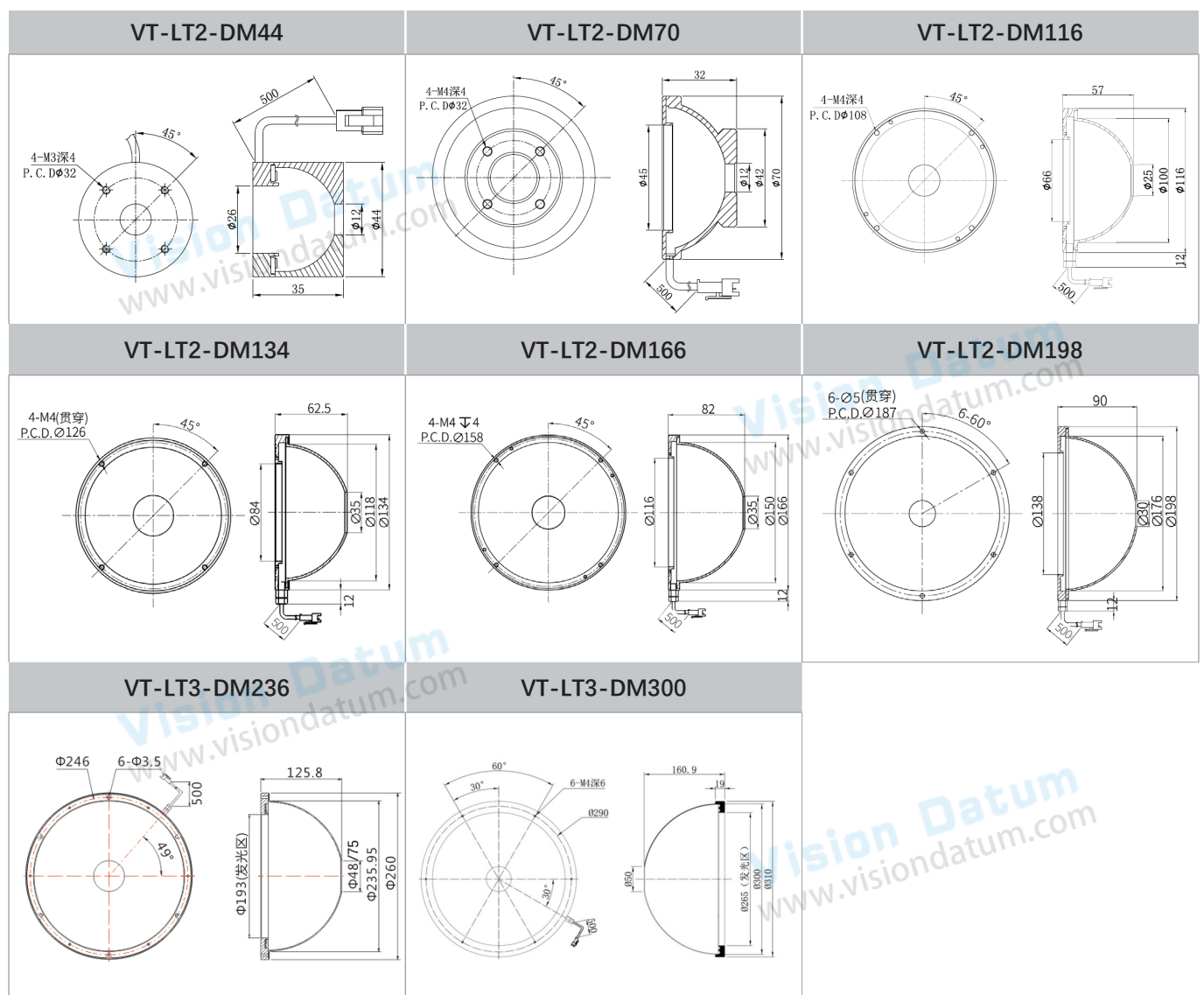
### Explanation of Model Code

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



Model No.	Optical spec.	Electrical specifications ( NIR / UV Accept custom)			Dimensions	
		Supply Voltage (v)	Power cons. (w) ●	Power cons. (w) ● ○ ●	Outer diam. (mm)	Inner 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

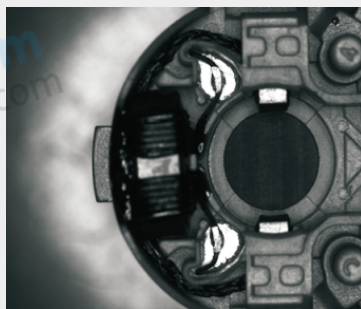


### Examples of Shadowless Ring Light Images



Lights:WR100W

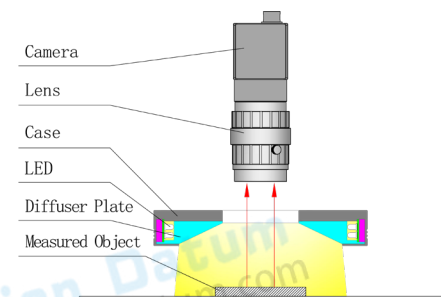
Imaging of CAN's bottom



Lights: WR48W

Imaging of soldering on plastic parts

### Illumination Structure



### Common Specifications

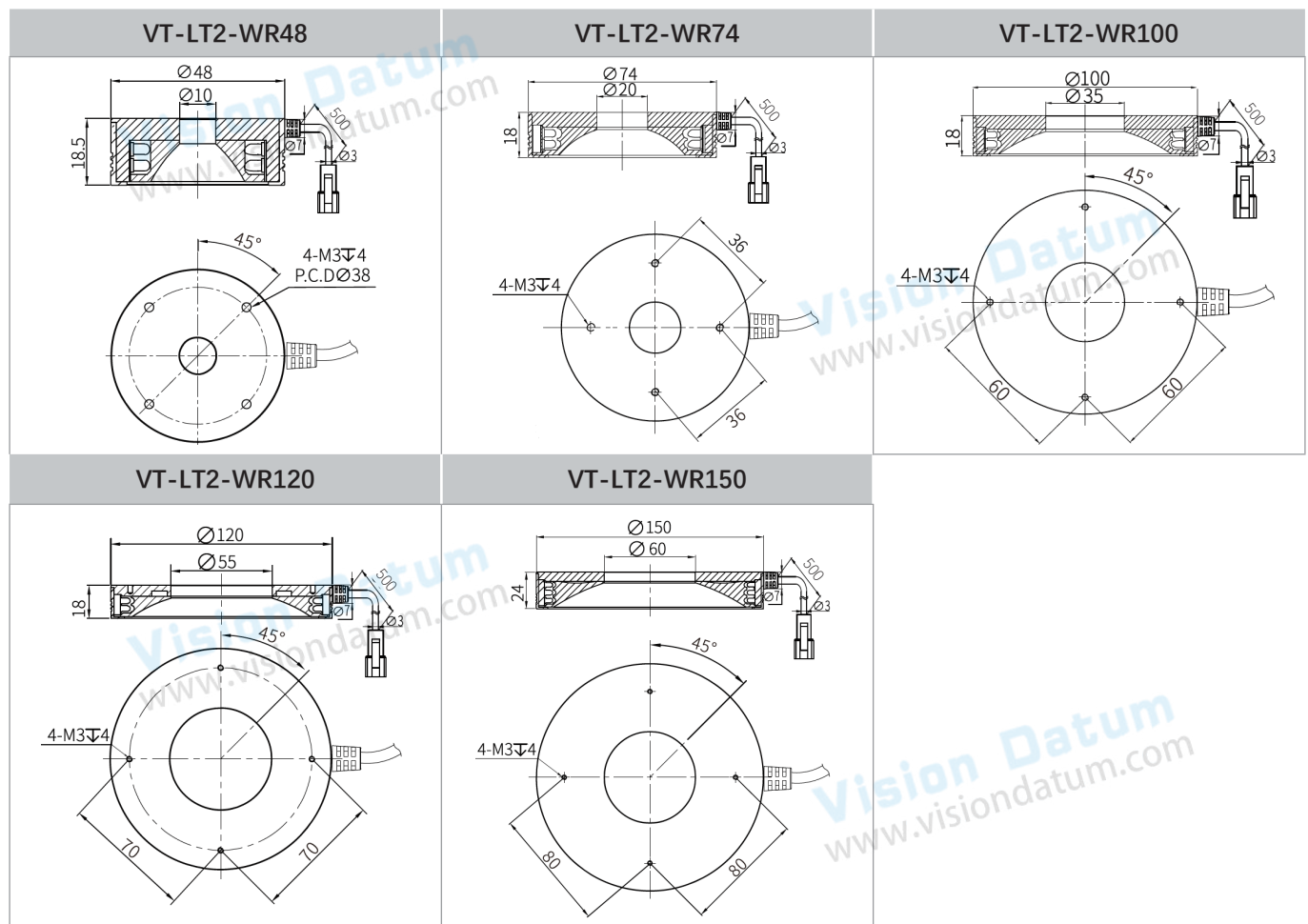
Input voltage	24 VDC
Connector	SMR-03V-B
Wavelength range	Red: 620-630nm; Blue: 460-475nm; Green: 520-530nm;
Color temperature (white)	6000-7500K
Operating environment (indoor)	Temperature: 0~40°C Humidity: 20% to 85% RH (with no condensation)
Life time	White:30,000hrs, Red: 60,000hrs (Depends on the 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)

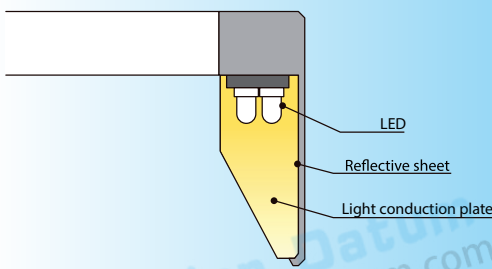
Low angle ring lights provide diffused lighting.

### 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

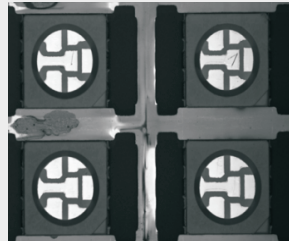
- Low angle uniform illumination and dark field lighting.
- Inspection of scratches on the workpiece.
- Plastic surface optical character recognition, capacitor character recognition.

### Examples of Shadowless Low Angle Ring Light Images



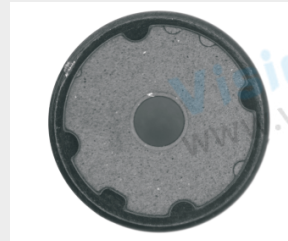
Lights:LWR50W

Imaging of characters on capacitance



Lights: LWR100W

Imaging of interior of LED

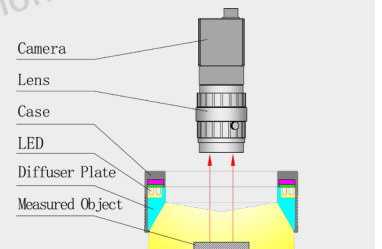


Lights:LWR180B

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

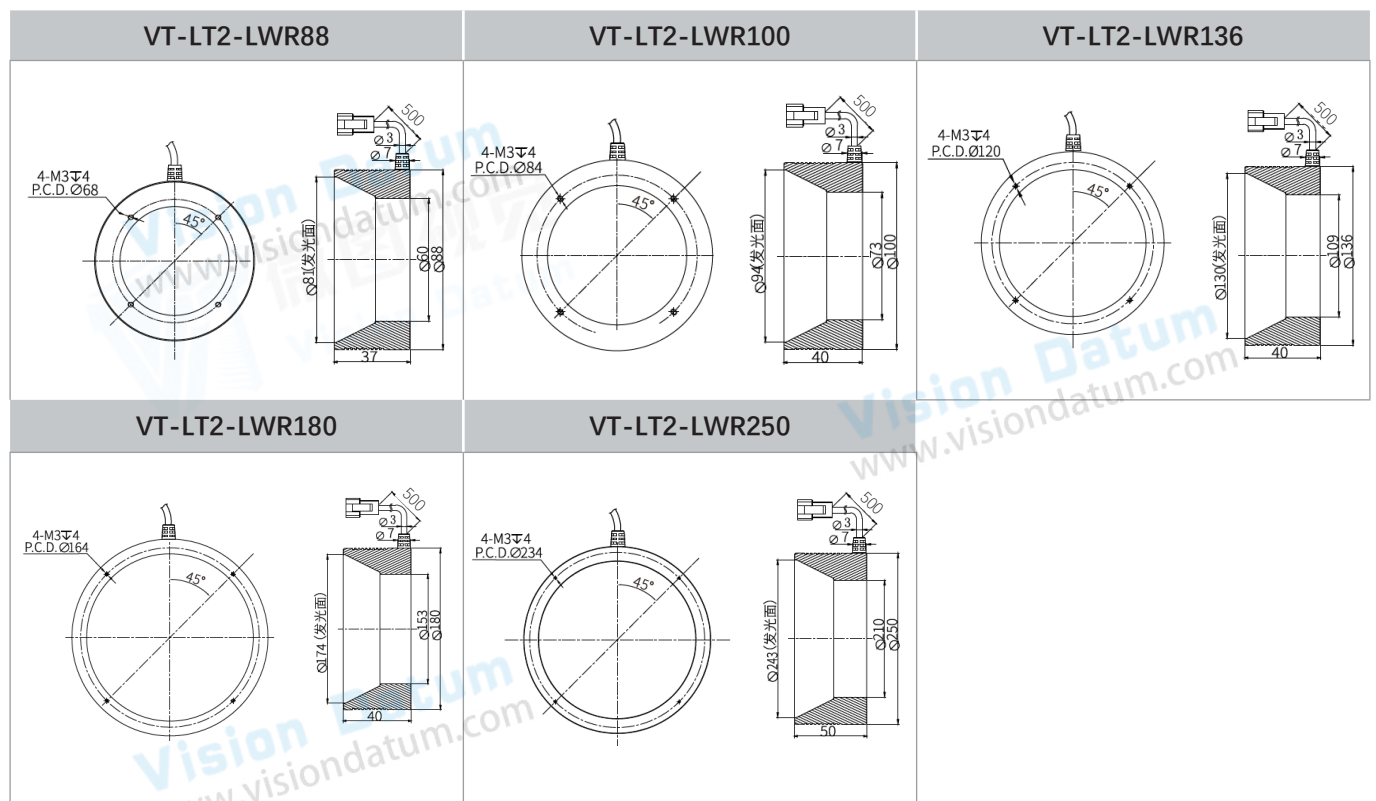
Input voltage	24 VDC
Connector	SMR-03V-B
Wavelength range	Red: 620-630nm; Blue: 460-475nm; Green: 520-530nm;
Color temperature (white)	6000-7500K
Operating environment (indoor)	Temperature: 0~40°C Humidity: 20% to 85% RH (with no condensation)
Life time	White:30,000hrs, Red: 60,000hrs (Depends on the 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)
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..

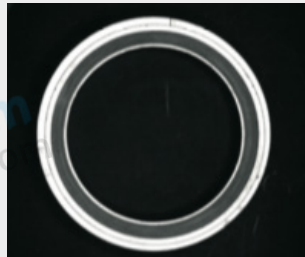


### Examples of Shadowless GWR Light Images



Lights: GWR150W

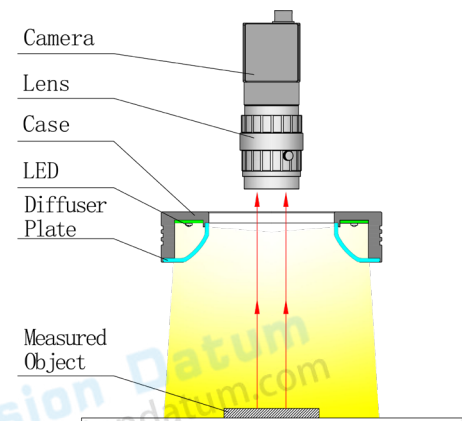
Imaging of keyboard and inner buttons



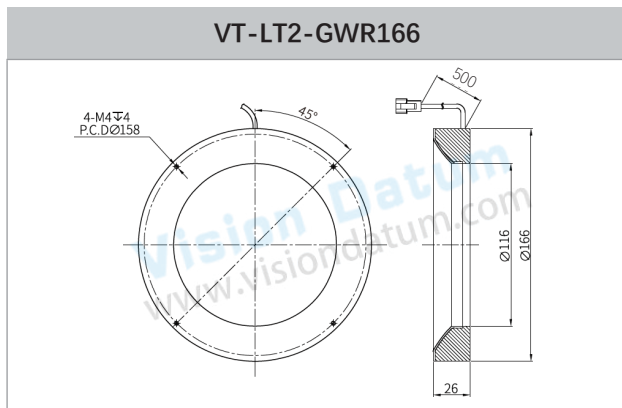
Lights: GWR150W

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

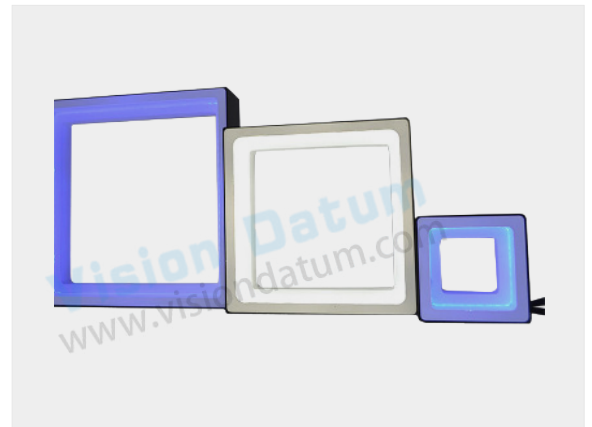
## MT Series (Standard with diffuser panel)

### 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.

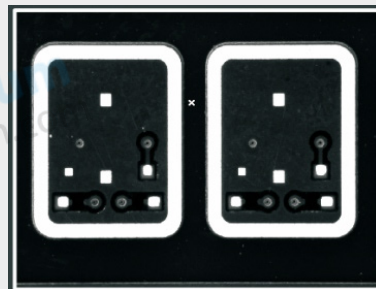


### Examples of Shadowless MT Light Images



Lights: MT48B

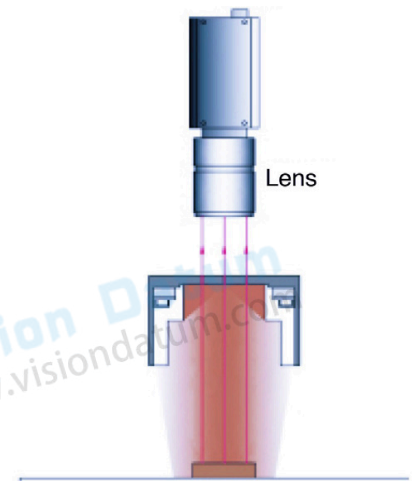
Imaging of outline and surface details of workpiece



Lights: MT48B

Imaging of outline and internal bumps of workpiece

### Illumination Structure



### Common Specifications

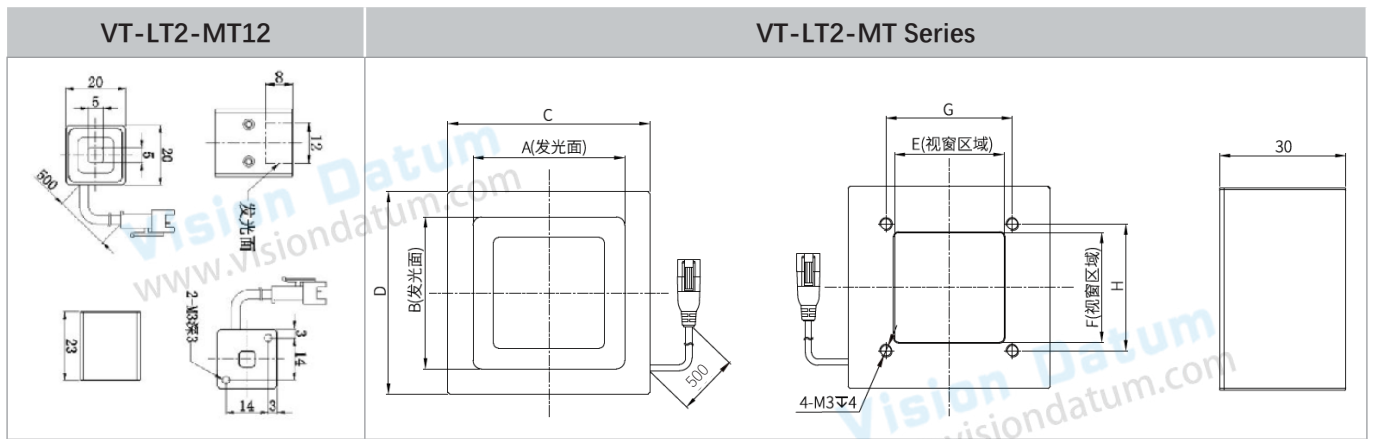
Input voltage	24 VDC
Connector	SMR-03V-B
Wavelength range	Red: 620-630nm; Blue: 460-475nm; Green: 520-530nm;
Color temperature (white)	5800-7500K
Operating environment (indoor)	Temperature: 0~40°C Humidity: 20% to 85% RH (with no condensation)
Life time	White:30,000hrs, Red: 60,000hrs (Depends on the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

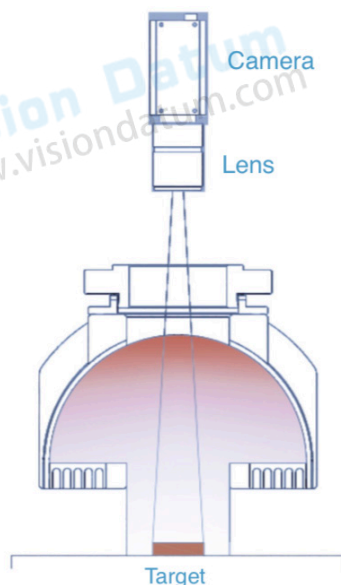


Metal fork inspection



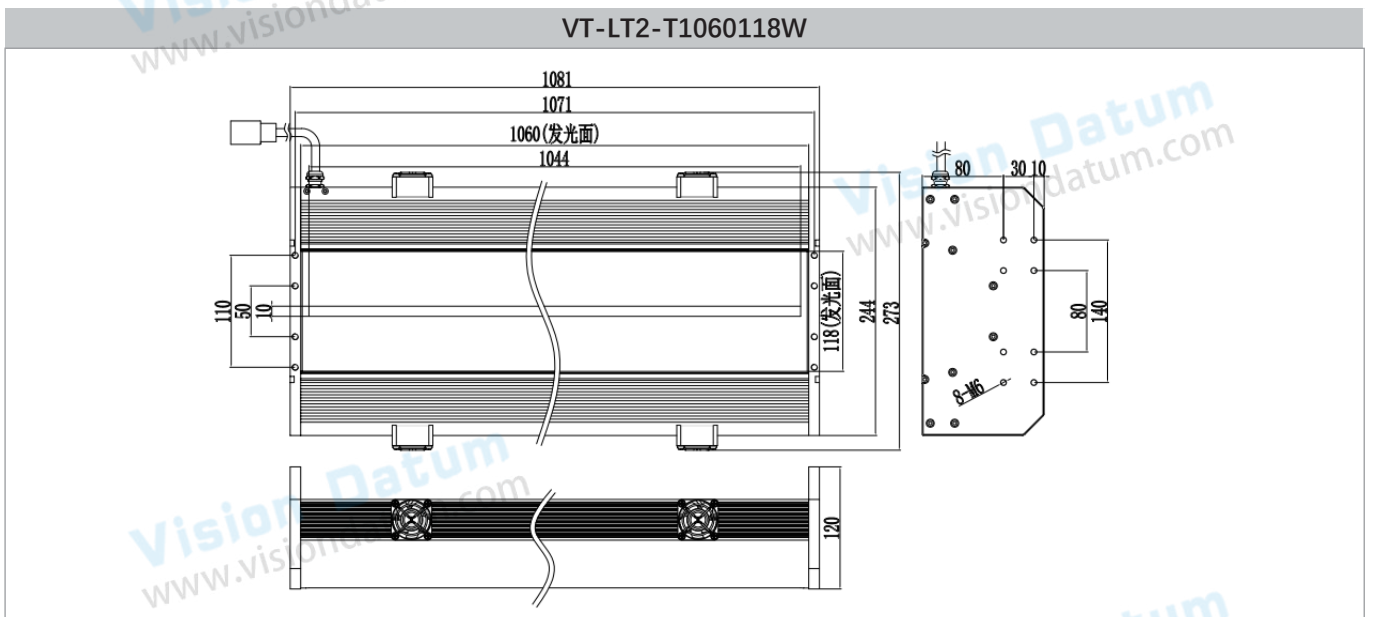
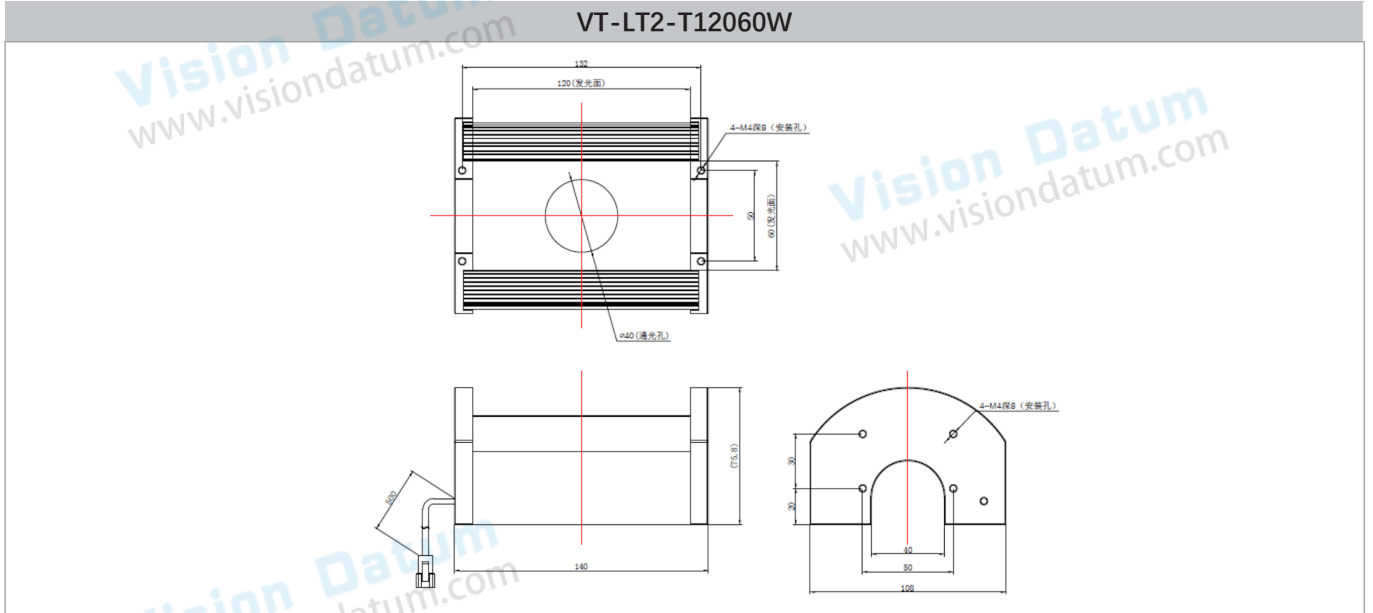
Food packaging can exterior inspection

### Lighting Structure





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



# 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: 900-1700nm
- ◇ 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

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