

Vision Datum
机器视觉 LED 光源

Machine Vision
无影方形光源

VISION DATUM LIGHTS

The Leader and Innovator in Machine Vision Lighting



ABOUT US

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

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

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



BRIGHTER

Up to 10X brighter than normal lighting



BETTER

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



COST-COMPETITIVE

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



EXPERT

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



FLEXIBILITY

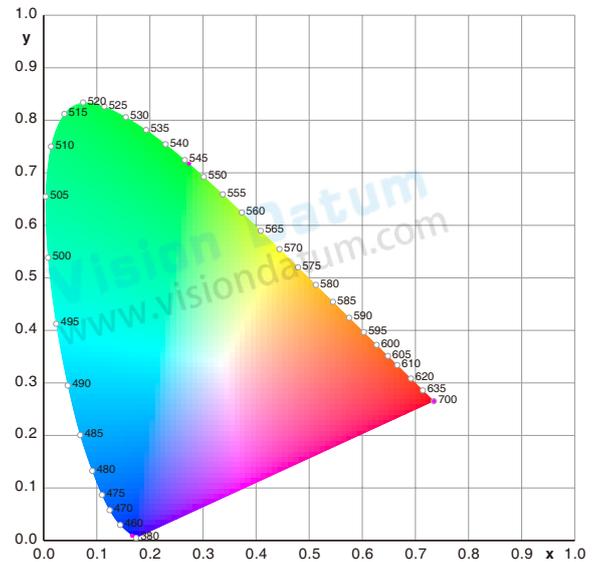
1 PC OEM / ODM available, including but not limited to IP67 / Anticorrosion requirement or IR / UV spectrum request

USEFUL INFORMATION

颜色波长

LED 光源的耐用性在耐用性光谱的上方。LED 光源保持完整功能的持续时间取决于工作温度和环境温度。

微图视觉为其 LED 光源提供了额外的保证。除某些条形灯外，所有外壳均由优质铝制成。此外，所有光源的发光亮度可以调节。



光源技术信息

光源	结构
<p>明视野光源 光线直接对准物体，通常会产生明显的阴影。这种类型的光有效运用于需要高对比度的物体上，但在与发亮或反射性强的材料一起使用时会产生镜面反射。</p>	<p>The diagram shows a light source at the top with a lens. Red lines represent light rays that are directed straight down towards a flat surface below. This creates a bright spot on the surface and a shadow to the side.</p>
<p>暗视野光源 光线以一定角度投射到物体表面，使任意偏转变化的光线进入到相机中，从而在深色背景或暗视野上产生亮点。如果表面没有差异，则视觉系统看不到任何东西。</p>	<p>The diagram shows a light source at the top with a lens. Red lines represent light rays that are directed at an angle towards a flat surface. The light reflects off the surface and is captured by a camera lens positioned above the surface.</p>
<p>背光源 从物体背面投射出均匀的照明区域，相机将看到它的轮廓。背光是测量或确定零件方向最常用的方法。</p>	<p>The diagram shows a light source at the top with a lens. Red lines represent light rays that are directed downwards and then reflected horizontally to illuminate the back of a flat surface. A camera lens is positioned above the surface to capture the silhouette.</p>
<p>漫射光光源：(穹顶 / 隧道) 反射光，提供方向无规律性的柔和照明，没有刺眼的阴影，非常适合于高度镜面物体。</p>	<p>The diagram shows a light source at the top with a lens. Red lines represent light rays that are directed downwards and then reflected off a curved, dome-shaped surface. The light is distributed evenly across the surface below.</p>
<p>同轴光源： 漫射光的一种形式，其中，光线入射到将光束向下反射的成角度的分束器上，从上方通过分束器观察物体。这种类型的光对于高反射物体或在检查区域周围有阴影的情况下使用特别有用。</p>	<p>The diagram shows a light source at the top with a lens. Red lines represent light rays that are directed downwards and then reflected off a 45-degree beam splitter. The light is directed back up through the lens to illuminate the object from above.</p>
<p>每种灯都有特定的用途，但也适用于与其功能没有直接关系的各种应用。例如，可以以一定角度放置提供亮场照明的聚光灯以产生暗场效果。对于某些应用，通过组合多种光源类型可获得最佳结果。</p>	

无影方形光源

MT 系列 (标准品含漫射板)

特性

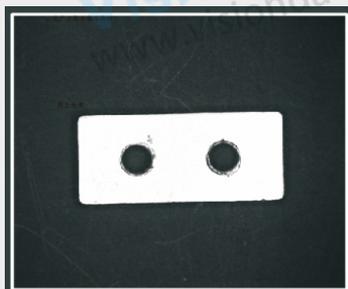
- LED 灯珠均匀分布在四个侧面。
- 光通过导光板扩散。

应用领域

- 检查烟盒，IC 引脚上的二极管引脚平整度，金属表面划痕，BGA 焊接点等。
- 适用于方形工件，可检测拐角轮廓。

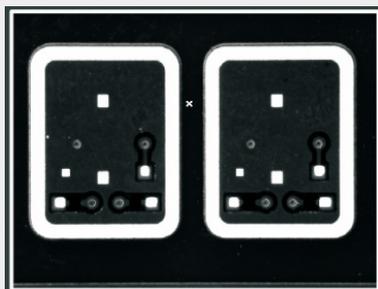


MT 方形无影光源实例图示



光源：MT48B

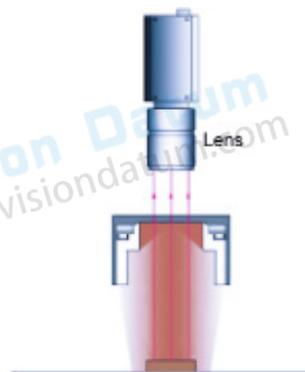
工件轮廓和表面细节的成像



光源：MT48B

工件轮廓和内部凸起的成像

光源结构图



通用规格

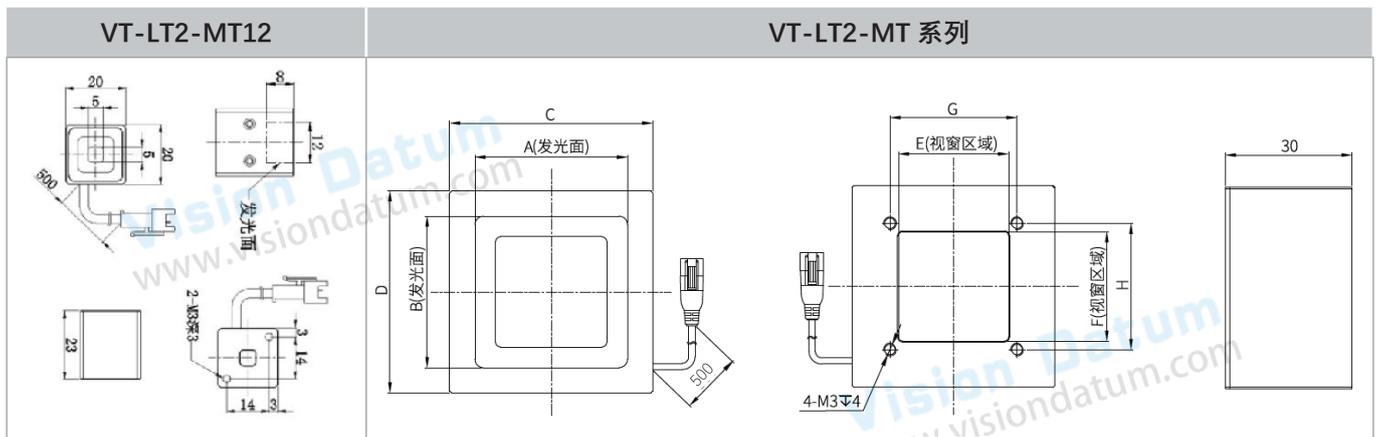
输入电压	24 VDC
连接口	SMR-03V-B
光源颜色波长	红色：620-630nm；绿色：520-530nm 蓝色：460-475nm
色温 (白色)	5800-7500K
辅助模块	扩散板，偏光板
使用环境 (室内)	温度：0~40℃ 湿度：20% to 85% RH (非凝结)
使用寿命	白光：30,000 小时，红光：60,000 小时 (取决于操作环境)
外壳材质	铝合金，树脂

型号命名说明

VT-LT2-MT	-	60	(W/B/R)
系列名		发光面长度	颜色

型号	光学规格		内孔尺寸 (mm)	工作距离	电气规格 (绿光 / 近红外 / 紫外线 可定制)			尺寸		
	长度 (mm)	宽度 (mm)			推荐工作距离 (mm)	电压 (v)	功率 (w)	功率 (w)	长度 (mm)	宽度 (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

尺寸图 (mm)



型号	光源通用尺寸图注释							
	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-MT98	108	108	120	120	98	98	102	102
VT-LT2-MT177	107	187	120	200	97	177	102	180

光源控制器



产品型号	驱动模式	输入电压	输出电压	输出功率	输出电流	通道数	光源接口	线扫匹配
数字控制器								
VT-LT4-0506PWDC-2	恒流	88V-264V	5V	6W/ 单通道 :3W 可扩容至: 12W/ 单通道 :6W	/	2	SMP-03V	
VT-LT4-2420PWDC-2	恒压	88V-264V	24V	20W/ 单通道 :20W	/	2	SMP-03V	
VT-LT4-2460PWDC-4	恒压	88V-264V	24V	60W/ 单通道 :25W	/	4	SMP-03V	
VT-LT4-24150PWDC-4	恒压	88V-264V	24V	150W/ 单通道 :70W	/	4	SMP-03V	
VT-LT3-24240PWDC-2	恒流	100V-120V(Ver.A) 200V-240V(Ver.B)	24V	240W	10A/ 单通道 10A	2	19M-5	√
VT-LT3-24500PWDC-2	恒压	100V-240V	24V	480W	20A/ 单通道: 光源 9A, 风扇 1A	2	19M-2E	
VT-LT4-48300PWDC-1	恒流	90V-264V	48V	300W	0-6A	1	-	
普通频闪控制器 (带增亮模块)								
VT-LT3-PLU24120-4	恒压	100V-240V	48V	120W	10A(瞬时值)	4	SMP-03V-BC	
VT-LT3-PLU24200-2	恒压	100V-240V	48V	200W	50A(瞬时值)	2	12M-2	
VT-LT3-PLU24200-4	恒压	100V-240V	48V	200W	25A(瞬时值)	4	SMP-03V-BC	
线光频闪控制器 (带增亮模块)								
VT-LT3-PLU481000LI-6	恒压	100V-240V	48V	1000W	25A/ 单通道 25A	6	16M-2	√
线光控制器								
VT-LT3-24300PWL1-1	恒压	100V-240V	24V	≤ 300W	12.5A	1	AM20K4Z	√
VT-LT3-48600PWL1-2	恒流	100V-120V(Ver.A) 200V-240V(Ver.B)	48V	600W	12A/ 单通道 6A	2	19M-6	√
VT-LT3-48600PWLIN-1	恒流	100V-120V(Ver.A) 180V-240V(Ver.B)	48V	≤ 600W	12A/ 单通道 6A	1	19M-6	√
VT-LT3-48300PWLIN-2	恒流	100V-240V	48V	≤ 300W	6A/ 单通道 6A	2	16M-6	√
VT-LT3-48600PWLIN-2	恒流	180V-240V	48V	≤ 600W	12A/ 单通道 6A	2	19M-6	√
VT-LT3-48800PWLIN-1	恒流	100V-240V	48V	< 800W	14A	1	19M-6	√
VT-LT3-48800PWLIN-2	恒流	100V-240V	48V	≤ 800W / 单通道 ≤ 400W	14A	2	19M-6	√
VT-LT3-481200PWLIN-1	恒流	100V-240V	48V	≤ 1200W	24A/ 单通道 12A	1	19M-6	√
模拟控制器								
VT-LT4-0506PWAC-2	恒流	88V-264V	5V	6W/ 单通道 3W	/	2	SMP-03V	
VT-LT3-2460PWAC-4	恒压	100V-240V	24V	60W	2.5A/ 单通道 2.5A	4	SMP-03V-BC	

注: * 默认出 Ver.B 版电压

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

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(科研级相机定制)



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全套工业检测系统解决方案



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杭州市西湖区西园九路8号
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Ver.24.05