

# LD1000 系列USB线扫描CCD相机

## LD1000 Series USB Line Scan CCD Cameras

### 产品简介 (Overview)

## 高灵敏度、30M输出速度、USB 2.0接口

### High Sensitivity, Up to 30MHz Output, USB 2.0 Interface

LD1000 系列黑白线扫描CCD数字相机采用USB2.0高速数据总线接口，即插即用，部分型号采用USB总线供电。系列相机内部集成了高性能的AFE模块及高精度的AD采样器，输出包含了8bit至12bit各种型号，用户可通过USB接口进行相机工作模式、积分时间、电子快门、增益和偏置调整。产品具有高稳定性、高可靠性和高性价比的优点，尤其适用于表面检测、图像扫描及光谱测量等应用。

The LD1000 series line scan cameras offers superb image sensing quality, versatility and easy implementation. This series of products, has a compact mechanical design and incorporates monochrome linear sensors from 2048 to 7450 pixels and USB 2.0 High Speed Bus Specification. The programmable settings let the user work at different integration/exposure time, gains and offsets.

The performance and reliability of this series of products make it well-suited for most demanding line scan applications, from web inspection to document scanning, from surface inspection to metrology.

### 规格 (Specifications)

分辨率 (Resolution)	2048 / 3648 / 5150 / 7450
像素尺寸 (Pixel Size)	14×14 / 14×200 / 8×200 / 7×7 / 4.7×4.7 (μm×μm)
数据率 (Data Rate)	1MHz to 30MHz
最高行频 (MAX. Line Rate)	9.5KHz / 0.25KHz / 4.5KHz / 3KHz
数据格式 (Data Format)	8bit / 12bit
输出 (Output)	USB 2.0 High Speed
增益调整范围 (Gain Range)	0dB to 24dB (MAX. 16V/V) with 10bit resolution
偏置调整范围 (Offset Range)	-300mV to +300mV with 8bit resolution
镜头接口 (Lens Mount)	F Type / K Type / M42×1 Type / C Type
电源 (Power Supply)	+12V/+5V dual power input / USB bus powered <sup>[1]</sup>
功耗 (Power Dissipation)	<3W
工作温度 (Operating Temp.)	0°C to 50°C
尺寸 (Size)	65mm(W)×61mm(H)×43mm(L)
重量 (Mass)	<320g
电源输入 (Power Connector)	Hirose 4 pin compatible
控制输入 (Control Connector) <sup>[2]</sup>	Hirose 5 pin compatible

<sup>[1]</sup><sup>[2]</sup> Only for specific Models; <sup>[2]</sup> Optional and Only Accept 5V TTL inputs



### 产品特性 (Features)

- 2048~7450有效像素 (2K~7.5K resolution);
- 最大14×200μm像素面积 (Pixel size up to 14×200μm);
- USB 2.0高速总线接口 (USB 2.0 high speed data format);
- 30M像素/s输出频率 (High data rate up to 30MPixels/s);
- 小型化设计 (Compact design);
- 多种镜头接口 (Variable lens mount available);
- 选配的外同步功能 (Optional ext. sync.)<sup>[2]</sup>

### 可编程性 (Programmability)

- 积分时间及行频设定 (Adjustable integration time and line rate);
- 电子快门设定 (Adjustable electric shutter)<sup>[1]</sup>
- 数字增益及数字偏置调整 (Digital gain and offset control);
- 测试图像输出 (Test image output);
- 同步模式设置 (Internal/Ext. sync.)<sup>[2]</sup>

### 典型应用 (Typical Applications)

- 表面检测 (Surface inspection);
- 图像扫描应用 (Document scanning and imaging);
- 尺寸及振动测量 (High-speed metrology);
- 光谱探测与分析 (Spectral analysis);
- 科研及教学 (College & study);



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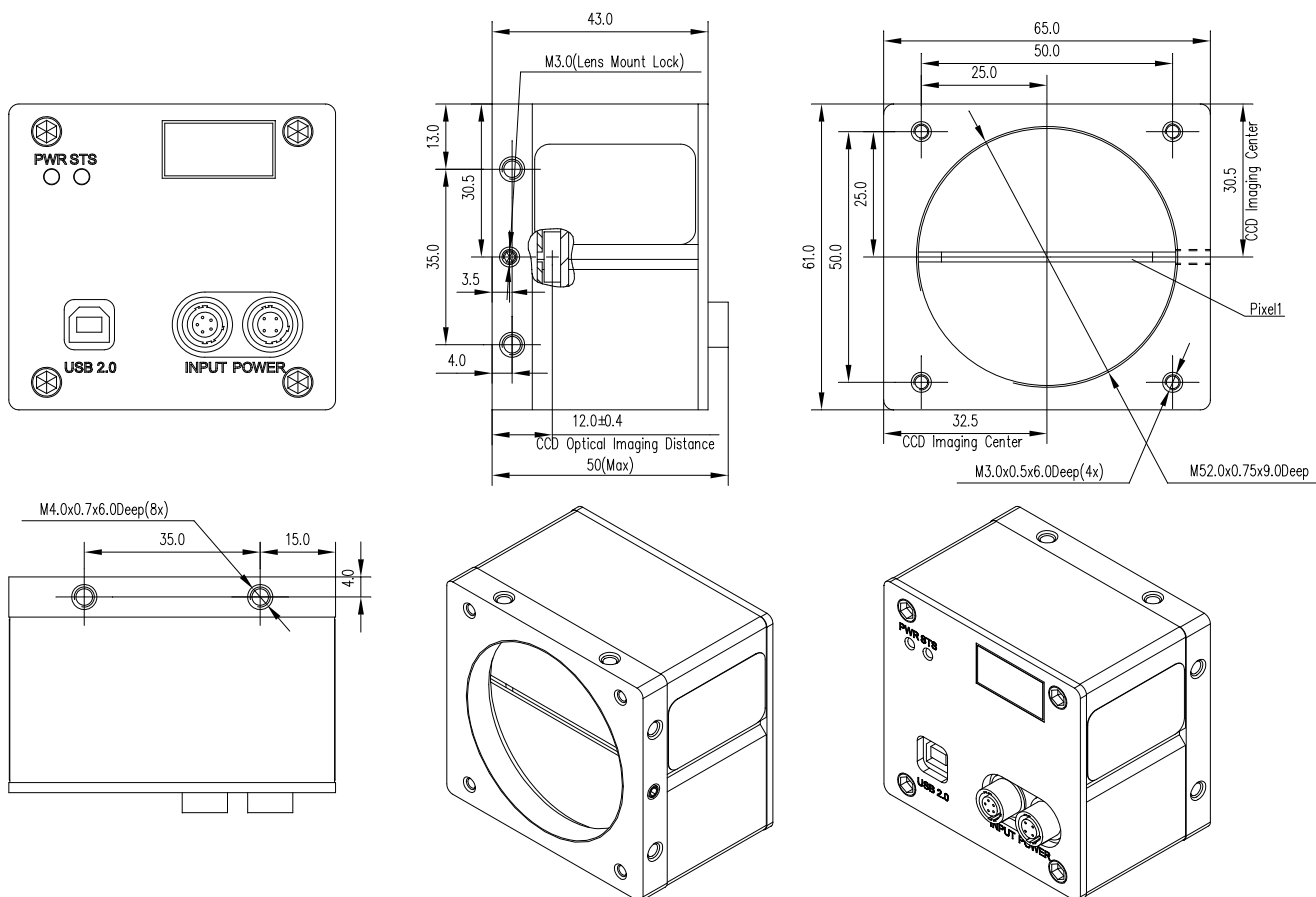
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### 型号列表 (Order Info)

型号 Order Number	有效像素 Resolution	像素尺寸 Pixel Size ( $\mu\text{m}\times\mu\text{m}$ )	数据率 Data Rate	最高行频 MAX Line Rate	数据格式 Data Format	电子快门 Elec. Shutter	电源 Power Supply
LD1112B-2048A	2048	14×200	2MHz	0.9KHz	12bit	10 $\mu\text{s}$ - 2s	USB
LD1108B-2048	2048	14×14	20MHz	9.5KHz	8bit	—	+12V / +5V
LD1112B-2048	2048	14×14	12MHz	5.7KHz	12bit	—	+12V / +5V
LD1112B-3648	3648	8×200	1MHz	0.25KHz	12bit	10 $\mu\text{s}$ - 2s	USB
LD1108B-5150	5150	7×7	24MHz	4.5KHz	8bit	—	+12V / +5V
LD1108B-7450	7450	4.7×4.7	24MHz	3KHz	8bit	—	+12V / +5V

### 尺寸 (Mechanical) 单位 (Unit): mm



说明: POWER连接器仅对指定型号, INPUT连接器为选配安装 (Power connector is only for specific models; The TTL INPUT connector is optional).



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