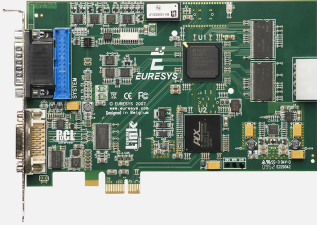


# Grablink Express

用于一个基本配置 PoCL Camera Link 摄像机的图像采集卡



## 一览

- 对于 Camera Link Base 配置摄像机
- 直接兼容市场上数以百计的 Camera Link 摄像机
- 支持 PoCL, 通过 Camera Link 供电
- PCIe x1 总线
- 32 MB 板载内存
- 特征丰富的 9 条数字 I/O 线

## 优势

### 直接兼容市场上数以百计的 Camera Link 摄像机

检查我们的摄像机兼容页面（在支持菜单中）以下载相关 Cam 文件。

### 通用 I/O 线

兼容多种传感器和运动编码器。

### 高性能 DMA（直接存储器存取）

- 直接传送到用户分配的内存
- 硬件分散 — 聚集支持

### 带有速率转换器的柔性线扫描摄像机操作。

- 速率转换器是一个智能的、可编程的倍频器/分频器。
- 用于运动编码器和线扫描摄像机，允许用户选择该图像中的像素纵横比。
- 它提供了一种方法来校准采集链以轻松达到正方形（1:1 纵横比）像素。

### 提供 Windows 和 Linux 驱动程序

应用

电子制造业的机器视觉

用于检查机器的高速图像采集。

Coaxlink 和 Grablink 卡是可靠的工业图像采集卡，从最快的数码摄像机提供强大和稳定的图像采集。它们的特点是精确的摄像机控制和同步功能。

- AOI（自动光学检测）机
- 3D SPI（锡膏检测）机
- 3D 引线/球型检查机

用于检查机的极高分辨率的线扫描图像采集

Coaxlink 和 Grablink 卡是可靠的工业图像采集卡，从最快的数码摄像机提供强大和稳定的图像采集。它们的特点是精确的线扫描摄像机控制和同步功能。

- 平板显示检测
- 太阳能电池检查

一般制造业的机器视觉

用于检查机的高帧率图像采集

玻璃检测：瓶、小瓶

表面检测机的线扫描图像采集

Coaxlink 和 Grablink 卡是可靠的工业图像采集卡，从最快的数码摄像机提供强大和稳定的图像采集。它们的特点是精确的线扫描摄像机控制和同步功能。

用于纺织品检测的线扫描图像采集

印刷业的机器视觉

用于印刷检查机的高速线扫描图像采集

- 包装打印检查
- 标签打印检查

视频采集和录制

用于运动分析和记录的高帧速率视频采集

规范

Mechanical

Form Factor	PCI Express card
Format	Standard profile, half length, 1-lane PCI Express card
Cooling method	Air-cooling
Mounting	For insertion in a standard height, 1-lane or higher, PCI Express card slot
Connectors	<ul style="list-style-type: none"><li>• 'CAMERA LINK' on bracket:<ul style="list-style-type: none"><li>– 26-position Mini Delta Ribbon (MDR) socket</li><li>– Camera Link connector</li></ul></li><li>• 'SYSTEM' on bracket:<ul style="list-style-type: none"><li>– 26-pin 3-row high-density male sub-D connector</li><li>– I/O lines and power output</li></ul></li><li>• 'SYSTEM' on PCB:<ul style="list-style-type: none"><li>– 26-pin 2-row 0.1" pitch pin header with shrouding</li><li>– I/O lines and power output</li></ul></li><li>• 'CAMERA POWER INPUT' on module:<ul style="list-style-type: none"><li>– 4-pin MOLEX power socket</li><li>– 12 VDC power input for PoCL camera</li></ul></li></ul>
Dimensions	L 168 mm x H 111 mm L 6.61 in x 4.37 in

## Host bus

Standard	PCI Express 1.0
Link width	1 lane
Link speed	2.5 GT/s (PCIe 1.0)
DMA	32-bit
Peak delivery bandwidth	256 MB/s
Effective (sustained) delivery bandwidth	180 MB/s (Host PC motherboard dependent)
Power consumption	Max. 5.35 W (500 mA @ +3.3V, 300 mA @ +12V), excluding I/O power output

## Camera / video inputs

Interface standard(s)	Camera Link
Connectors	1 Mini Delta Ribbon (MDR) Camera Link (CL)
Number of cameras	One Base camera
Line-scan cameras supported	Yes
Maximum aggregated camera data transfer rate	2.04 Gbit/s (255 MB/s)
Camera Link configuration	Base
Camera Link clock frequency range	From 20 MHz up to 85 MHz
PoCL (Power over Camera Link)	One PoCL SafePower compliant controller with overload, over-voltage and short-circuit protections
Camera types	<ul style="list-style-type: none"><li>• Gray-scale and color (RGB and Bayer) cameras</li><li>• Area-scan and line-scan cameras</li></ul>
Camera pixel formats supported	Monochrome, Bayer, and RGB (PFNC names): <ul style="list-style-type: none"><li>• Mono8, Mono10, Mono12, Mono14, Mono16</li><li>• BayerXX8, BayerXX10, BayerXX12, BayerXX14, BayerXX16 where XX = GR, RG, GB, or BG</li><li>• RGB8</li></ul>

## Video delivery

Raw video format(s)	<ul style="list-style-type: none"><li>• Monochrome formats: Y8, Y10, Y12, Y14, Y16</li><li>• Packed RGB color formats: RGB24, RGB32</li><li>• Planar RGB color formats: RGB24PL, RGB30PL, RGB36PL, RGB42PL, RGB48PL</li><li>• Additional formats: BAYER8, BAYER10, BAYER12, BAYER14, BAYER16, RAW8, RAW10, RAW12, RAW14, RAW16</li></ul>
---------------------	--

## On-board processing

On-board memory	32 MB (16 MB for image data)
Image data stream processing	<ul style="list-style-type: none"><li>• Unpacking of 10-/12-/14-bit to 16-bit with selectable justification to LSb or MSb</li></ul>
Geometrical operators	<ul style="list-style-type: none"><li>• Cropping (not available for 2YE cameras)</li><li>• Left/right and up/down mirroring</li></ul>

## General Purpose Inputs and Outputs

Number of lines	9 I/O lines: <ul style="list-style-type: none"><li>• 4 TTL input/output lines (ENHANCED I/O)</li><li>• 2 differential inputs (TRA1, TRA2)</li><li>• 1 isolated output (STA)</li><li>• 2 multimode input/output lines (ISOA1, ISOA2)</li></ul>
Usage	<ul style="list-style-type: none"><li>• Camera and image acquisition trigger</li><li>• Light strobe trigger</li><li>• Camera synchronization using motion encoder</li><li>• General purpose IO</li></ul>
Electrical specifications	<ul style="list-style-type: none"><li>• ISOA1, ISOA2: Inputs or outputs, isolated up to 500 V:<ul style="list-style-type: none"><li>– Input: compatible with TTL or 12V signals</li><li>– Output: TTL, open-collector or open-emitter</li></ul></li><li>• TRA1, TRA2: Inputs compatible with TTL, LVTTTL, differential LVDS, differential RS422, differential RS-485 signals, protected against electrostatic discharge, with choke for the rejection of common-mode noise</li><li>• STA: Opto-isolated outputs, compatible with signals up to 60V, with 3 <math>\mu</math>s fall time, isolated up to 500V</li><li>• ENHANCED IO Inputs or outputs compatible with TTL signals, protected against electrostatic discharge, with high-frequency noise filter</li></ul>
Filter control	<ul style="list-style-type: none"><li>• Glitch removal filter available on input lines used as trigger sources:</li><li>• Configurable with five time constants:<ul style="list-style-type: none"><li>– 100 ns, 500 ns and 2.5 <math>\mu</math>s for trigger/ page trigger /page end trigger sources</li><li>– 100 ns, 500 ns, 2.5 <math>\mu</math>s for line trigger source</li></ul></li></ul>
Power output	<ul style="list-style-type: none"><li>• Non-isolated +5V, 1A and +12V, 500 mA with self-resettable fuse protection</li><li>• Isolated +5V 250 mA with electronic fuse protection</li></ul>

## Software

Host PC Operating System	<ul style="list-style-type: none"><li>• Microsoft Windows 10, 8.1, 8, 7, XP</li><li>• Microsoft Windows Server 2012 R2, 2012, 2008 R2</li><li>• Linux Kernel versions from 2.6 up to 3.13, compatible with a wide range of distributions</li><li>• 32- and 64-bit versions</li></ul>
APIs	<ul style="list-style-type: none"><li>• MultiCam 32-bit and 64-bit binary libraries (Windows and Linux), for ISO-compliant C/C++ compilers</li><li>• DirectShow filters (Windows only) for Microsoft Visual C++ compilers (32-bit only)</li></ul>

## Environmental conditions

Operating ambient air temperature	0 to +50 °C / +32 to +122 °F
Operating ambient air humidity	10 to 90% RH non-condensing
Storage ambient air temperature	-20 to +70 °C / -4 to +158 °F
Storage ambient air humidity	10 to 90% RH non-condensing

## Certifications

Electromagnetic - EMC standards	<ul style="list-style-type: none"><li>• The European Council EMC Directive 2004/108/EC</li><li>• The Unites States FCC rule 47 CFR 15</li></ul>
EMC - Emission	<ul style="list-style-type: none"><li>• EN 55022:2010 Class B</li><li>• FCC 47 Part 15 Class B</li></ul>
EMC - Immunity	<ul style="list-style-type: none"><li>• EN 55024:2010 Class B</li><li>• EN 61000-4-2</li><li>• EN 61000-4-3</li><li>• EN 61000-4-4</li><li>• EN 61000-4-6</li></ul>
Flammability	PCB compliant with UL 94 V-0
RoHS	Compliant with the European Union Directive 2011/65/EU (ROHS2)
REACH	Compliant with the European Union Regulation No 1907/2006
WEEE	Must be disposed of separately from normal household waste and must be recycled according to local regulations

## Ordering Information

Product code - Description	<ul style="list-style-type: none"><li>• 1621 - Grablink Express</li></ul>
----------------------------	---



## AMERICA

### **Euresys Inc.**

27126-B Paseo Espada - Suite 704  
San Juan Capistrano, CA 92675 - United States  
Phone: +1 949 743 0612  
Email: sales.americas@euresys.com

## EMEA

### **Euresys SA**

Liège Science Park - Avenue du Pré-Aily, 14  
4031 Angleur - Belgium  
Phone: +32 4 367 72 88  
Email: sales.europe@euresys.com

## ASIA

### **Euresys Pte. Ltd.**

750A Chai Chee Road - #07-15 Viva Business Park  
Singapore 469001 - Singapore  
Phone: +65 6445 4800  
Email: sales.asia@euresys.com

## CHINA

### **Euresys Shanghai Liaison Office**

17F, Unit AB, N. 588 Yan An Dong Road - Huangpu District  
CN-200001 Shanghai - China  
Euresys上海联络处  
上海黄浦区 延安东路588号17楼AB座  
200001  
Phone: +86 13817814488  
Email: sales.china@euresys.com

## JAPAN

### **Euresys Japan K.K.**

Expert Office Shinyokohama - Dai 2 Ueno Building, Shinyokohama 3-7-18  
Kouhoku-Ku, Yokohama-Shi 222-0033 - Japan  
〒222-0033  
神奈川県横浜市港北区新横浜3-7-18 第2上野ビル エキスパートオフィス新横浜  
Phone: +81 45 594 7259  
Email: sales.japan@euresys.com

More at [www.euresys.com](http://www.euresys.com)

