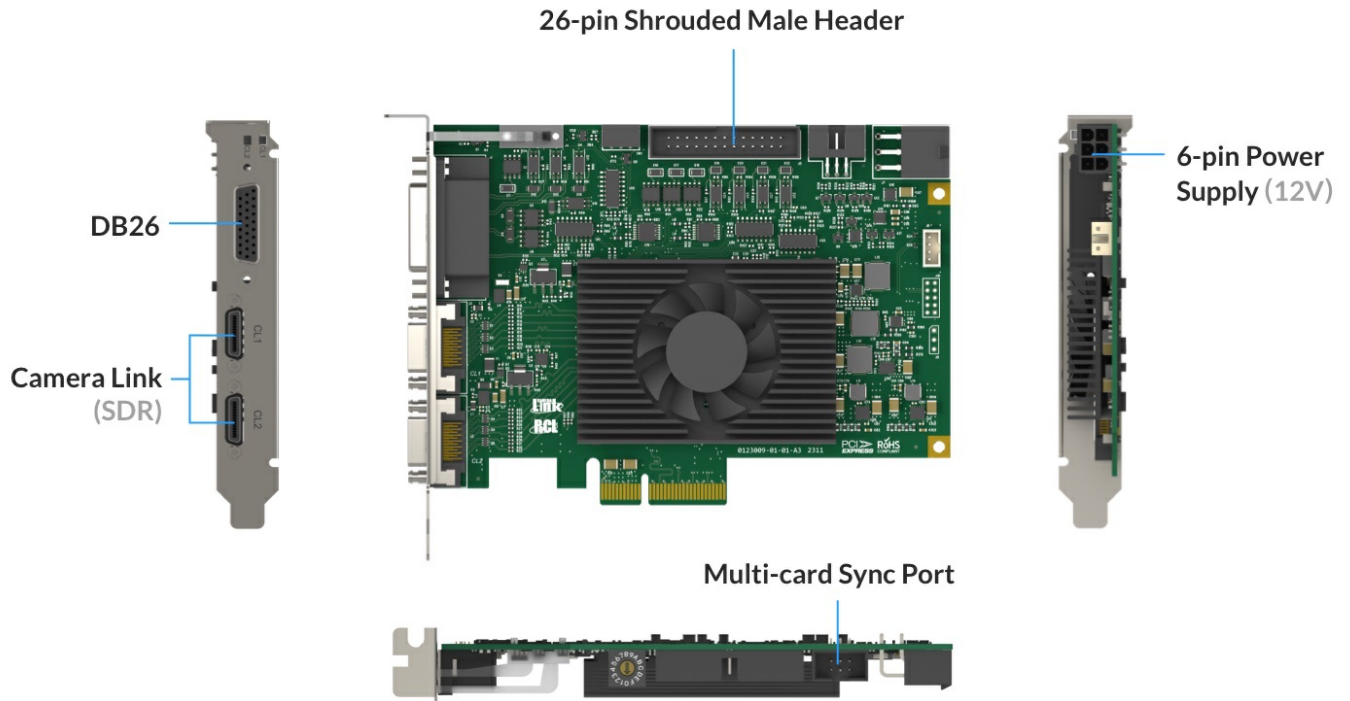


Flex I/O Dual CL

Dual-channel Camera Link frame grabber

SKU: 119000000



Product Overview

Flex I/O Dual CL is an image acquisition device specially designed for industrial machine vision. With a single firmware, it can flexibly switch between Base/Medium/Full modes. The product adopts a dual independent channel design, and its application scenarios cover high-precision inspection fields such as 3C consumer electronics, lithium batteries, and FPD display screens.

Key Features

- Supports single-camera and dual-camera working modes
- Supports the Camera Link 2.1 protocol standard (backward compatible)
- Supports 80-bit / 72-bit / Full / Medium / Base modes, with a maximum transmission bandwidth of 6.8Gbps
- Supports up to 1730MB/s bus bandwidthUses with the PCIe Gen 2 x4 interface
- Magewell Flex DMA PCIe transmission engine completes frame capture and transmission by hardware, no CPU usage
- Magewell Flex I/O Viewer client, compatible with all types of CXP industrial cameras, supports parameter configuration and preview.
- Follows the GenICam standard, with the SDK providing GenTL and GenApi application programming interfaces
- Rich SDK development libraries, offering C/C++/C# secondary development sample source programs

Packing List

- 1* Flex I/O Dual CL device

Technical Specifications

Revised on 06/18/2025

Camera Ports

- Input ports: 2* Shrunk Delta Ribbon (SDR)
- Transfer speed:
 - Base: Up to 2.0Gb/s @85MHz
 - Medium: Up to 4.8Gb/s @85MHz
 - Full: Up to 5.4Gb/s @85MHz
 - 80bit Deca: Up to 6.8Gb/s @85MHz
- Supported protocol: Camera Link 2.1 and below
- Transfer mode:
 - One camera: 80-bit / 72-bit / Full / Medium / Base
 - Two cameras: Base
- Max. number of cameras: 2
- Camera type:
 - Area-scan cameras: Grayscale and color (RGB and Bayer CFA)
 - Line-scan cameras: Grayscale and color (RGB)
- Tap support: Full support of TapGeometry formats
- Pixel depth: 8/10/12/14/16 bit
- Pixel clock: 20MHz–85MHz

Camera Trigger and Control

- Support software trigger and external hardware trigger
- Support rotary encoder with built-in frequency multiplication and frequency division function
- Provide output IO, supporting accurate control of external light source

Power over Camera Link (PoCL)

- Power per channel: > 4W@12V
- Two independent controllers
- PoCL device detection and automatic power-on
- Overload and short-circuit protection
- Power supply mode: 6-pin PEG

Host Ports

- Host bus: PCIe Gen 2 x4
- Performance: 1730MB/s (continuous transfer bandwidth)
- Transfer engine: Flex DMA PCIe, with frame capture and transmission completed by hardware, no CPU occupation

General Purpose Inputs and Outputs (GPIO)

- 1* 26-pin 3-row high-density female sub-D connector
 - 4* isolated inputs (IIN), with the max. frequency of 50kHz
 - 4* differential inputs (DIN), with the max. frequency of 5MHz
 - 3* isolated outputs (IOUT), with the max. frequency of 100kHz
 - 2* single-end TTL inputs/outputs (TTLIO), with the max. frequency of 5MHz
 - 12V power supply and GND
- 1* 26-pin 2-row 0.1" pitch pin header with shrouding
 - 4* isolated inputs (IIN), with the max. frequency of 50kHz
 - 4* differential inputs (DIN), with the max. frequency of 5MHz
 - 3* isolated outputs (IOUT), with the max. frequency of 100kHz
 - 2* single-end TTL inputs/outputs (TTLIO), with the max. frequency of 5MHz
 - 12V power supply and GND

Multi-card Synchronization

- Built-in 2x3 2.54 spacing connector interfaces, with the max. frequency of 1MHz, achieving accurate synchronization of camera trigger and capture by multiple capture cards

On-board Memory

- 256M

Included Software

- Flex I/O Viewer: Support parameter configuration and preview

SDK & APIs

- Standard: GenICam
- APIs: GenTL Producer, GenApi
- Supported software: Halcon, MVS, etc.
- Development applications: C/C++/C#

Firmware Update

- Provide single-camera firmware and two-camera firmware which are updated through firmware management software

Recommended OS

- Windows 10/11

LED Indicators

- 2 three-color LED, indicating the working status of 2 ports.

Dimensions

- 139.7mm x 102.92mm

Cooling

- Air cooling, fan-cooled heatsink

Power Consumption

- Typical power $\leq 10W$

Working Environment

- Operating temperature: 0 to 50 deg C
- Storage temperature: -15 to 85 deg C
- Relative Humidity: 10% to 90% non-condensing

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