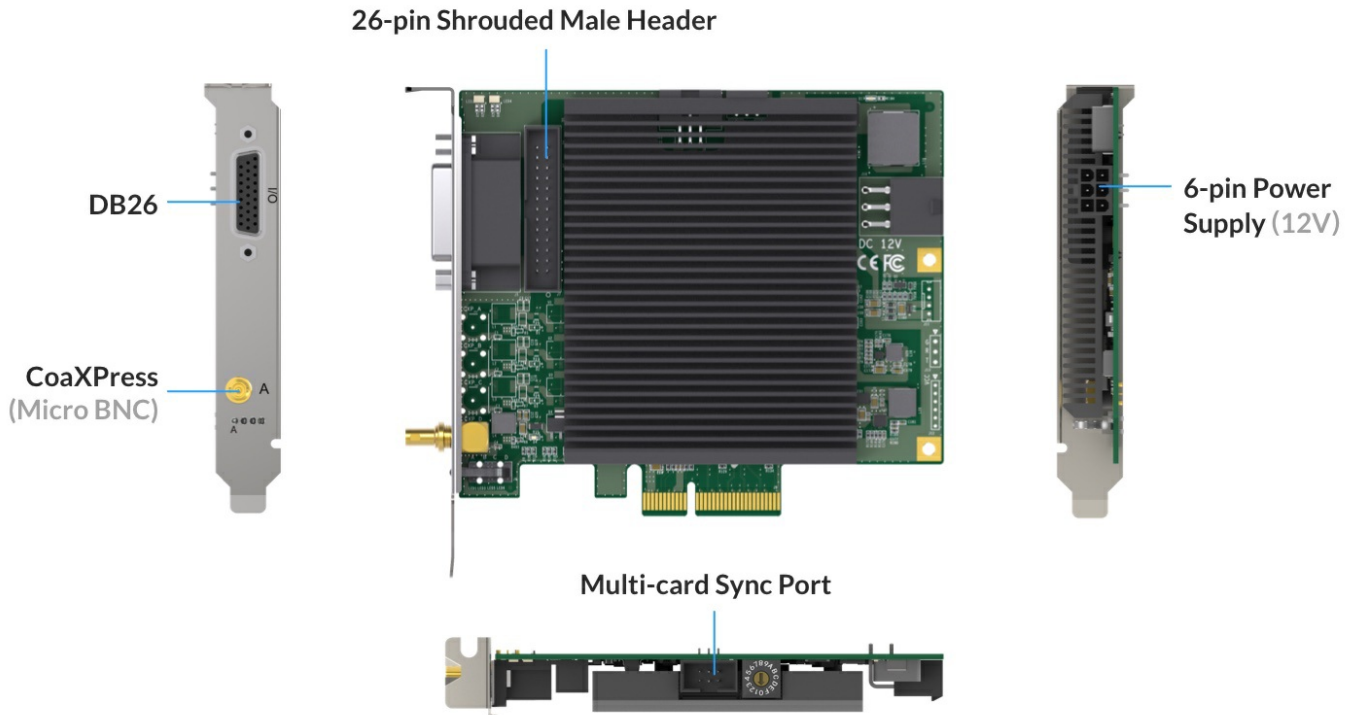


Flex I/O CXP-12

Single-channel CXP-12 frame grabber

SKU: 118700000



Product Overview

Flex I/O CXP-12 is a high-performance image acquisition device for the industrial machine vision field. Equipped with a single-channel CXP-12 interface (12.5Gbps), it is suitable for high-precision industrial inspection scenarios such as 3C consumer electronics, lithium batteries, and FPD display screens.

Key Features

- Supports a maximum connection of 1 camera to a single card
- Supports the CoaXPress 1.1/2.0 protocol standard
- Supports up to 1250MB/s camera transfer bandwidth with one CoaXPress CXP-12 (up to 12.5 Gbps) camera connection
- Abundant GPIO interface resources, providing two external interfaces: DB26 and 26-pin shrouded male header
- Supports up to 3300MB/s bus bandwidth with the full-height PCIe card and PCIe Gen 3 x4 interface
- Magewell Flex I/O Viewer client, compatible with all types of CXP industrial cameras, supports parameter configuration and preview.
- Magewell Flex DMA PCIe transmission engine completes frame capture and transmission by hardware, no CPU usage.
- Supports disordered industrial camera cable connections
- Supports GenTL Producer and GenICam programming interfaces

Packing list

- 1* Flex I/O CXP-12 device

Technical Specifications

Revised on 06/18/2025

CoaXPress Connectors

- 1* 75Ω Micro-BNC connector
- Power over CoaXPress: Feed the camera up to 16W per channel, and the total power is up to 16W
- Supported rate: 1.25 Gbps, 2.5 Gbps, 3.125 Gbps, 5 Gbps, 6.25 Gbps, 10 Gbps, 12.5 Gbps

Supported Camera

- Supports Aera-scan cameras and Line-scan cameras
- Supports Grayscale cameras and color cameras (YCbCr, YUV, RGB and Bayer CFA)
- Tap supports 1X-1Y, 1X-1Y2, 1X-2YE

Firmware Type

- 1d1s:
 - One 1-connection camera
 - Supports Bayer2RGB

Built-in Image Processing

- Little endian conversion
- Unpacking of 10-/12-/14-bit data to 16-bit with selectable justification to LSb or MSb
- Bayer CFA to RGB decoder: 3X3 linear interpolation method

*Note: Bayer CFA to RGB function supports up to 32768 Bytes in a row.

LED Indicators

- 1 full-color LED indicator, indicating the status of the corresponding Micro-BNC connectors according to CXP specifications

Frame Buffers

- 2 x 4Gb DDR4 frame buffers (1 GB)

PCIe Interface

- PCIe Gen 3 x4 interface, compatible with PCIe Gen 2/1 and x4, x2, x1

I/O on PCI Bracket

- 1* 75Ω Micro-BNC connector
- 1* DB26 Female Connector (26-pin 3-row high-density female sub-D connector)
 - 4 differential opto-isolated inputs (IIN), with the max. frequency of 50kHz
 - 4 differential high-speed inputs (DIN), with the max. frequency of 5MHz
 - 3 differential opto-isolated outputs (IOUT), with the max. frequency of 100kHz
 - 2 single-ended TTL/LVTTL inputs/outputs, with the max. frequency of 5MHz
 - 12V and GND

I/O on PCB

- 1* 2x13 2.54mm pitch connector
 - 4 differential opto-isolated inputs (IIN), with the max. frequency of 50kHz
 - 4 differential high-speed inputs (DIN), with the max. frequency of 5MHz
 - 3 differential opto-isolated outputs (IOUT), with the max. frequency of 100kHz
 - 2 single-ended TTL/LVTTL inputs/outputs, with the max. frequency of 5MHz
 - 12V to GND

PoCXP Power Input

- A +12V power source must be connected to the AUXILIARY POWER INPUT connector using a 6-pin PEG cable

Supporting Software

- Flex I/O Viewer: compatible with all types of CXP industrial cameras, supporting parameter configuration and preview

Development Interface

- GenTL Producer and GenICam: support for Halcon, MVS, and many others

Development Samples

- Provides C/C++ secondary development sample source program

Operating Systems

- Windows 10/11

Other Functions

- Supports cascading through IO interfaces and synchronized acquisition trigger for multiple cards

Dimensions

- 132.9mm x 120.8mm (with PCI bracket)

Cooling

- Passive cooling

Power Consumption

- The capture card uses PCIe + 12V power supply. The power consumption of the whole card depends on the firmware, with the typical power consumption $\leq 10W$.

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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