

# Basler boost

## AREA SCAN CAMERAS



### CoaXPress® CXP-12

- Excellent image quality with 9MP/12MP Sony Pregius CMOS sensors
- Impeccable image transmission via powerful CoaXPress 2.0 (CXP-12)
- Easy installation with matching Basler CXP-12 Interface Card

# OVERVIEW

FIVE-STAR CONTROL WITH  
FRAME GRABBER TECHNOLOGY

UNMATCHED PRICE/  
PERFORMANCE RATIO

GALACTIC HIGH BANDWIDTH  
WITH COAXPRESS 2.0

A NEW WORLD OF CMOS  
SENSOR PERFORMANCE



## IT'S TIME TO LAUNCH YOUR APPLICATION INTO NEW GALAXIES OF PERFORMANCE

The boost is Basler's first camera with a CoaXPress 2.0 interface that offers its users an unprecedentedly high bandwidth for data transfer. New CMOS sensors are combined with the latest frame grabber technology. This leads to easy and fast transmission of large amounts of data over long distances – for an extraordinary price/performance ratio.

### Evolve with CoaXPress 2.0 (CXP-12)

With the boost series, Basler is one of the first camera manufacturers on the market to expand its portfolio with a camera featuring the CoaXPress standard in its version 2.0 combined with modern CMOS sensor technology. High speed, high resolution and easy cabling are just some of the advantages of this match of latest technology developments. Upgrade your CameraLink or CXP-6 vision system and reduce your system costs significantly by switching to CoaXPress 2.0 with Basler's boost series.

### Bundle with CXP-12 Interface Card

If you need the right interface card for your application, Basler has a fantastic solution for you. While in the past customers had to purchase the various hardware components from different suppliers, now we offer you the opportunity to single-source what you need. The advantage for you: a smooth integration of tested and qualified components into your image processing system and at the same time a noticeable cost advantage.

Basler's pylon Camera Software Suite addresses the camera as well as the interface card, making it even easier to integrate the application.

### Evaluation Kit – Everything You Need for Testing

Testing is essential, but it's also a hassle, and can slow down your project plans, especially when dealing with new interface versions like CoaXPress 2.0. Therefore, we provide not only camera and interface card, but also all suitable vision components for your test scenario. Get our CXP-12 Starter Kit including CoaXPress cable, I/O cabling, camera cooling and lens mount adapter.

## YOUR CHOICE FOR COAXPRESS 2.0 (CXP-12)



### Basler boost

Basler's camera series with CoaXPress 2.0 for high bandwidths and resolutions.



### Basler boost Bundle

Basler CXP-12 camera with the well-tailored Basler CXP-12 interface card.



### CXP-12 Starter Kit

Accessories for efficient testing of your boost camera and interface card.



### CXP-12 Accessories

Comprehensive portfolio of suitable vision components.



### CoaXPress Evaluation Kit

Basler boost camera, interface card and starter kit for a fast installation and integration.

# TECHNICAL DETAILS

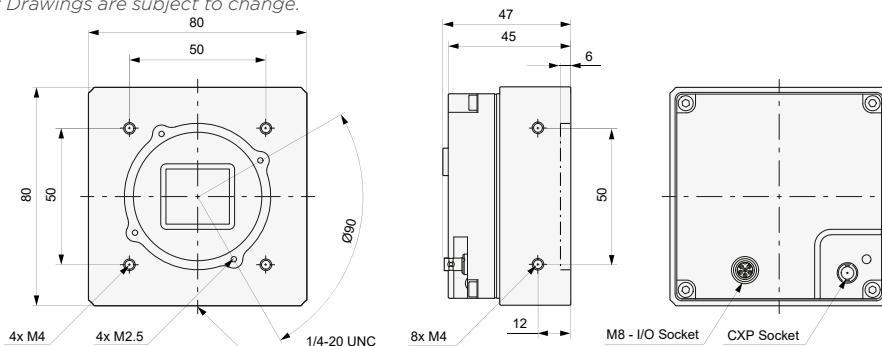


Basler boost	boA4112-68cm	boA4112-68cc	boA4096-93cm	boA4096-93cc
<b>Model Specifications</b>				
Resolution (H×V pixels)	4096×3000	4096×3000	4096×2168	4096×2168
Sensor	Sony Pregius IMX 253	Sony Pregius IMX 253	Sony Pregius IMX 255	Sony Pregius IMX 255
Sensor Size [mm]	14.1×10.3	14.1×10.3	14.1×7.5	14.1×7.5
Sensor Size (optical)	1.1"	1.1"	1"	1"
Sensor Technology	CMOS, global shutter			
Pixel Size [ $\mu\text{m}^2$ ]	3.45×3.45			
Frame Rate [fps]	68	68	93	93
Exposure Control	Via hardware trigger or programmable via the camera API			
Mono/Color	Mono	Color	Mono	Color
Video Output Format	Mono (8, 10, 12)	Mono (8, 10, 12), Bayer RG (8, 10, 12), YCbCr422_8, RGB8, BGR8	Mono (8, 10, 12)	Mono (8, 10, 12), Bayer RG (8, 10, 12), YCbCr422_8, RGB8, BGR8
Interface	CoaXPRESS 2.0 (CXP-12)			
<b>Mechanical/Electrical</b>				
Housing Size (L×W×H) [mm]	45×80×80			
Housing Temp.	0 - 50°C			
Lens Mount	Flexible mount concept (e.g. adapters available for C-Mount, F-Mount, M42 x 0.75 and M42 x 1)			
Connector	Micro-BNC (HD-BNC)			
Digital I/O	1 input, 2 GPIO			
Power Requirements	PoCXP or 24 VDC			
Power Consumption	tbd	tbd	tbd	tbd
<b>Software Environment</b>				
Driver	Basler pylon Camera Software Suite			
Operating System	Windows			
Conformity	CoaXPRESS, CE, RoHS, GenICam			

Specifications are subject to change without prior notice. Latest specifications and availability can be found on our website [baslerweb.com/boost](http://baslerweb.com/boost). Please visit [baslerweb.com/manuals](http://baslerweb.com/manuals) for the detailed camera User's Manual and [baslerweb.com/thirdparty](http://baslerweb.com/thirdparty) for information on third party software.

## Dimensions (in mm):

Design-in sample status: Drawings are subject to change.





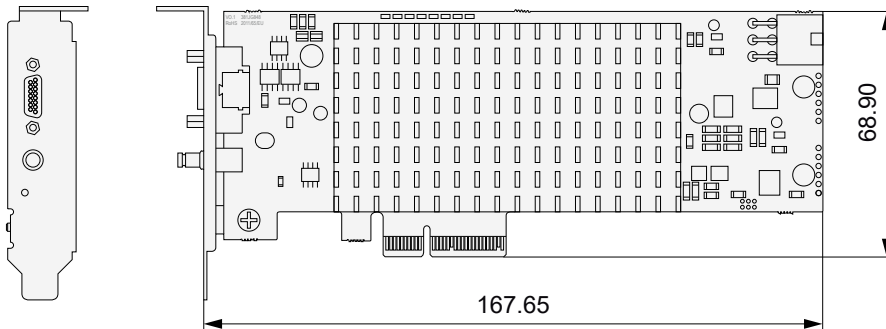
Interface Card	Basler CXP-12 Interface Card 1C
<b>Card Specifications</b>	
Data Rate [MB/s]	3260
Interface Host	PCIe 3 x4
On-Board Memory	1 GB DDR4-RAM
<b>Mechanical/Electrical</b>	
Size [mm]	167.65×68.90×18.00 (low profile)
Camera Connector	1x Micro-BNC (HD-BNC)
Power Requirements	PCIe 6-pin connector 12 V (required for PoCXP)
Trigger Connector	D-Sub Micro-D 15pin
Weight [g]	180
<b>Software Environment</b>	
Driver	Basler pylon Camera Software Suite
Operating System	Windows
Conformity	CE, RoHS, GenICam

**The CXP-12 Interface Card is part of the Basler boost Bundle and cannot be ordered separately.**

Specifications are subject to change without prior notice.

Latest specifications and availability can be found on our website [baslerweb.com/boost](http://baslerweb.com/boost). Please visit [baslerweb.com/manuals](http://baslerweb.com/manuals) for the detailed camera User's Manual and [baslerweb.com/thirdparty](http://baslerweb.com/thirdparty) for information on third party software.

## Dimensions (in mm):



# INTERFACE

## CoaXPress Evolves to Version 2.0

Key features of CoaXPress 1.1, the leading high-speed interface, are high bandwidth, real-time behavior, very precise triggering and cost-effective cabling options.

The 2019 CoaXPress 2.0 standard (CXP-12) increases the maximum bandwidth over a single connection to up to 12.5 Gbps. This enables the use of even higher resolutions and higher frame rates. Compared to the CoaXPress 1.1 standard, the user needs only half the cables to transmit the same amount of data. When combined with Power over CXP (PoCXP) and triggering, no further wiring besides the CoaXPress cables is required. A significant cost reduction per transmitted megapixel can be achieved by updating to the new CXP-12 interface.

## Main Changes from Version 1.1.1 to 2.0

- Bandwidth: up to 12.5 Gbps per channel.
- Connectors: Both connectors for camera and frame grabber are standardized to Micro-BNC (HD-BNC).
- Heartbeats: The camera sends its internal clock to the frame grabber.
- Event packets: The camera is able to send events over the CXP link.

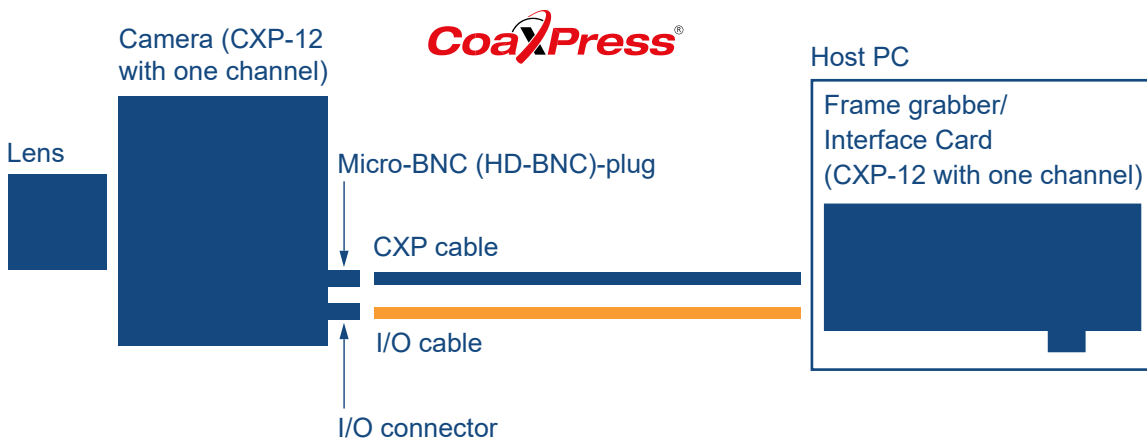
## Your Advantages with CoaXPress 2.0 (CXP-12)

- Very high bandwidth: At up to 12.5 Gbps per cable, it is currently one of the fastest interfaces in the machine vision industry.
- Generous cable lengths: Up to 40 m with a max. bandwidth of 12.5 Gbps with data transmission and power supply via just one coaxial cable.
- Accurate synchronization: Precise camera synchronization even in multi-camera systems with very low latency periods.
- Noticeable cost benefits compared to Camera Link and CoaXPress 1.1.1: Simplified system setup with the lowest costs per transferred megabyte.
- Latest CMOS sensor technology: Utilization of the full sensor potential in both resolution and speed.

## Upgrade from CameraLink and CoaXPress 1.1.1

We offer you a high-performance solution for switching from CameraLink or CoaXPress 1.1.1 (CXP-6), to CoaXPress 2.0 (CXP-12).

Find out more at [baslerweb.com/VisionInterfaces](https://www.baslerweb.com/VisionInterfaces)

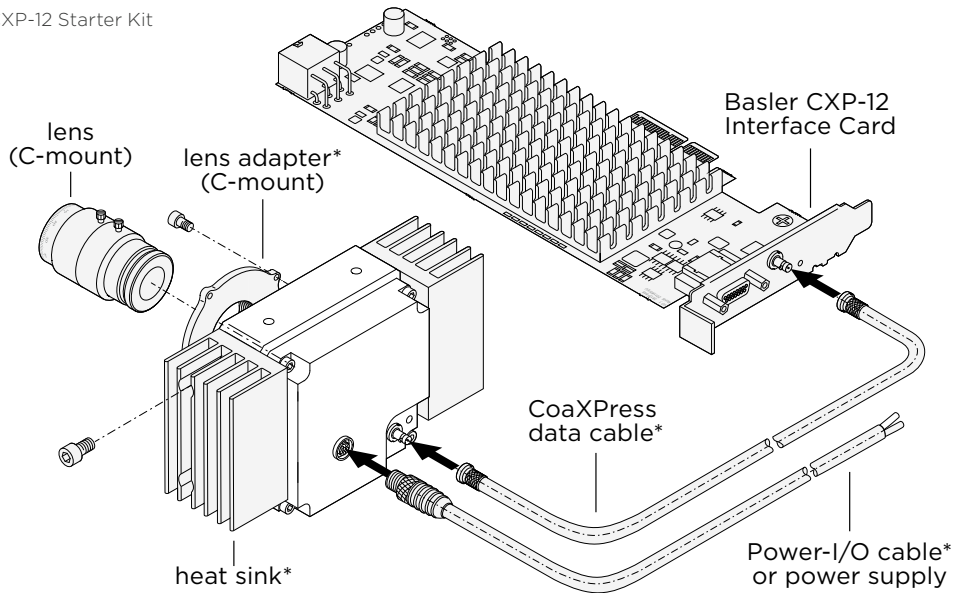


# ACCESSORIES

## Accessories for CoaXPress 2.0

Basler offers various additional vision components to help you build up your CoaXPress vision system. For an easy initial setup of the boost camera, Basler recommends the following vision components:

\*included in Basler CXP-12 Starter Kit



## Modular Mount Concept

The Basler boost camera is sold without a lens mount to enable you to select the matching lens and lens mount adapter for your application.



Our online tool, the vision System Configurator, makes it a breeze to help you to pick high-quality, matching components for your individual vision solution without much effort.

[baslerweb.com/vision-system-configurator](http://baslerweb.com/vision-system-configurator)

## OTHER INFORMATION

### How Does Basler Ensure Superior Quality and Reliable High Performance?

Our approach to quality assurance is rigorous: we constantly audit all facets of our business to guarantee performance, increase efficiency and reduce costs for our customers. We are compliant with all major quality standards including ISO 9001, CE, RoHS and more. To ensure consistently high product quality, we employ several quality inspection procedures during manufacturing.

### About Basler

Basler is a leading manufacturer of high-quality cameras and camera accessories for industry, medicine, traffic and a variety of other markets. The company's product portfolio encompasses area scan and line scan cameras in compact housing dimensions, camera modules in board level variants for embedded vision solutions, and 3D cameras. The catalog is rounded off by our user-friendly pylon SDK plus a broad spectrum of accessories, including several developed specially for Basler and optimally harmonized for our cameras.

Basler has three decades of experience in computer vision. The Basler Group is home to approximately 800 employees at its headquarters in Ahrensburg, Germany, and at other locations in Europe, Asia, and North America.



*Basler AG Germany, Headquarters*

### pylon for CoaXPress 2.0

The pylon Camera Software Suite is a software package comprised of an easy-to-use SDK, drivers and tools for operating any Basler camera using a Windows, macOS or Linux PC. Thanks to the latest GenICam technology pylon offers unrestricted access to the latest camera models and features. Making changes to an existing camera device in your application essentially becomes a plug-and-play process.

With pylon 6.0, Basler provides support for the new CoaXPress 2.0 standard for the first time. It takes just a few clicks to install all necessary drivers and libraries and get your Basler CXP-12 interface card and Basler boost camera set up and running. With the integrated GenTL support in pylon, Basler CoaXPress cameras can also be used in any GenICam GenTL compatible 3rd-party libraries.



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