KAYA INSTRUMENTS

Range Extender
CoaXPress 2.0 Over Fiber

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CoaXPress™ 2.0 over Fiber (SFP+)

Innovative Approach

KAYA Instruments' **CoaXPress Range Extender** over Fiber is industry's first CXP 2.0 range extender which provides a high resolution stream interface for distances up to 80km in single-mode and up to 300m in multi-mode. Optic fiber is electrically isolated, hence it does not radiate nor is it susceptible to electromagnetic interference, also eliminates the problems associated with grounding. The fiber cable is not easily tapped, providing more secure communication.

Intelligent Design

The system is constructed of two convertors, one on the camera side and one on the host side. The **CoaXPress Range Extender** uses standard Micro-BNC connectors as a CoaXPress interface to the camera and the Frame Grabber and flexible SFP+ modules for optical connection. The device side can provide power to the camera over CoaXPress link, while the converter on the host side can sink power from the Frame Grabber. The range extender is able to provide an uplink of up to 12.5Gbps and downlink up to 41.6Mbps. A Micro USB port is available for individual link and general information status and firmware update.

Key Features

- CoaXPress 2.0 support
- Support up to 12G of operation
- Power over CoaXPress with 13W per link
- Fanless design
- Solves distance limitation of CoaXPress
- Downlink/Uplink of 12.5 Gbps and 41.6Mbps respectively
- Support all the standard high speed link rates: 1.25G, 2.5G, 3.125G, 5G, 6.25G, 10G and 12.5G
- Extension for distances up to 80km with single-mode optic fiber and up to 300m with multi-mode optic fiber
- CWDM support
- Small mechanical footprint
- Improved power connector
- Rugged design
- Link LED indication on card bracket
- LED indicator for system status
- Bidirectional CoaXPress communication
- Flexible SFP+ module for optic fiber connection
- Standard LC fiber interface connectors
- Micro-BNC connector for CoaXPress links
- Plug and Play, no configuration required
- Industrial -40°C to 80°C operation temperature

Applications

- High speed cameras
- High definition cameras
- Panoramic cameras
- Defense remote systems
- Surveillance
- Sports judgement
- Sport analytics

Preliminary

Technical Data

Feature	Description
Interface standard(s)	CoaXPress 2.0 (CoaXPress 1.1 backward compatible)
Connectors	4x Micro-BNC CoaXPress 2.0 connectors 4x SFP+ connectors 1x Micro USB system status port 1x Power 24 VDC input connector
Status LEDs	4x CoaXPress connection status per connector 4x Fiber connection status per connector 1 System status LED
Number of links	4
Line-scan cameras supported	Yes
Supported CXP down-connection speeds	1.25 GT/s (CXP-1) 2.5 GT/s (CXP-2) 3.125 GT/s (CXP-3) 5 GT/s (CXP-5) 6.25 GT/s (CXP-6) 10 GT/s (CXP-10) 12.5 GT/s (CXP-12)
Cooling method	Air cooling, passive heatsink
Dimensions	117 mm x 114.5 mm x 23.5 mm (Length x Width x Height) 4.6 in x 4.5 in x 0.92 in (Length x Width x Height)
Weight	~300gr
Power Input	24 VDC
Power Consumption	< 6 W (Self consumption not including cameras)
PoCXP (Power over CoaXPress)	PoCXP Safe Power 13W of 24V DC regulated power per CoaXPress connector PoCXP Device detection and automatic power-on Overload and short-circuit protections

Environmental conditions	
Operating ambient air temperature	-30°C to +80°C / -22°F to +176 °F
Operating ambient air humidity	10% to 90% RH non-condensing
Storage ambient air temperature	-40°C to +80°C / -40°F to +176°F
Storage ambient air humidity	10% to 90% RH non-condensing

Preliminary

Certifications	
Electromagnetic - EMC standards	▪ The European Council EMC Directive 2004/108/EC ▪ The Unites States FCC rule 47 CFR 15
EMC - Emission	▪ EN 55022:2010 Class B ▪ FCC 47 Part 15 Class B
EMC - Immunity	▪ EN 55024:2010 Class B ▪ EN 61000-4-3 ▪ EN 61000-4-4 ▪ EN 61000-4-6
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

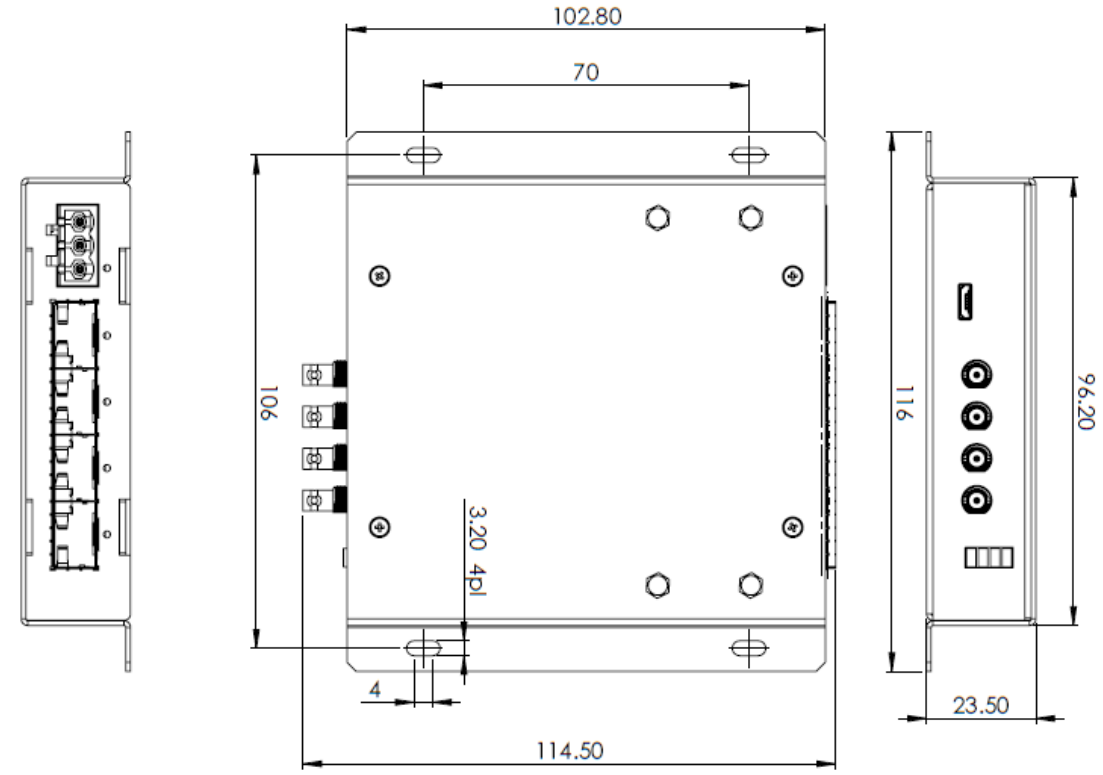
Ordering Information

Ordering Information	KY-FEXTII					
Host	KY-FEXTII-H					
Device	KY-FEXTII-D					
SFP+ module 850nm 300m Multi-Mode	KY-SFP-10G85-3M					
SFP+ module 1310nm 10km Single-Mode	KY-SFP-10G31-10					
CWDM SFP+ Single-Mode 10km	KY-CWDM-10G-10SP					
Fiber Cable	**KY-FCA-**	**X-** D- Duplex S- Simplex	**XX-** SM- Single Mode 50/125 MM- Multi Mode 50/125	**XX-** Connector Type: LC, FC, SC, ST	**XX-** Connector Type: LC, FC, SC, ST	**000.0** Length in meters

* S – Single Mode Standard Coupler

* W – Single Mode Wideband Coupler

Mechanical Drawings



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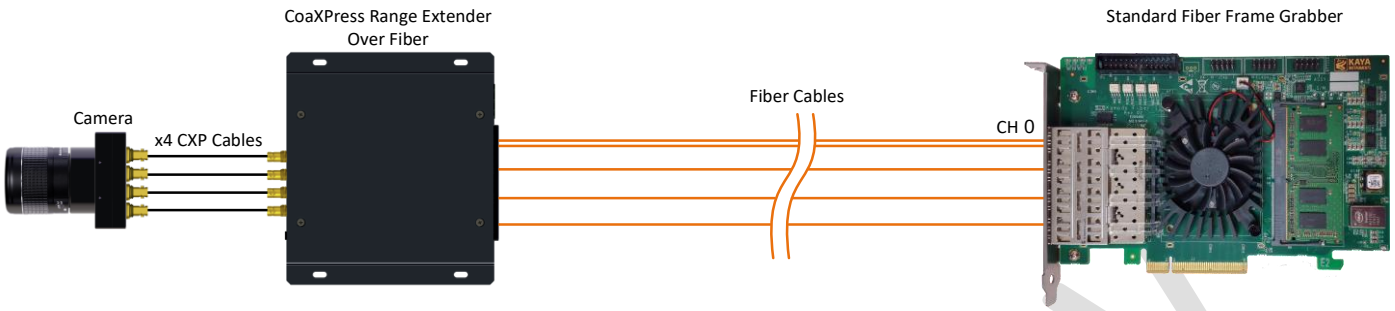
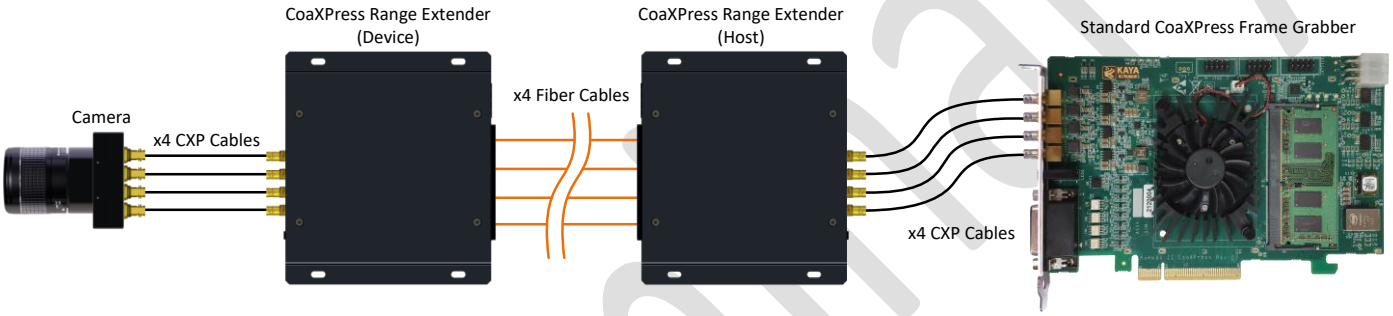
System Workflow

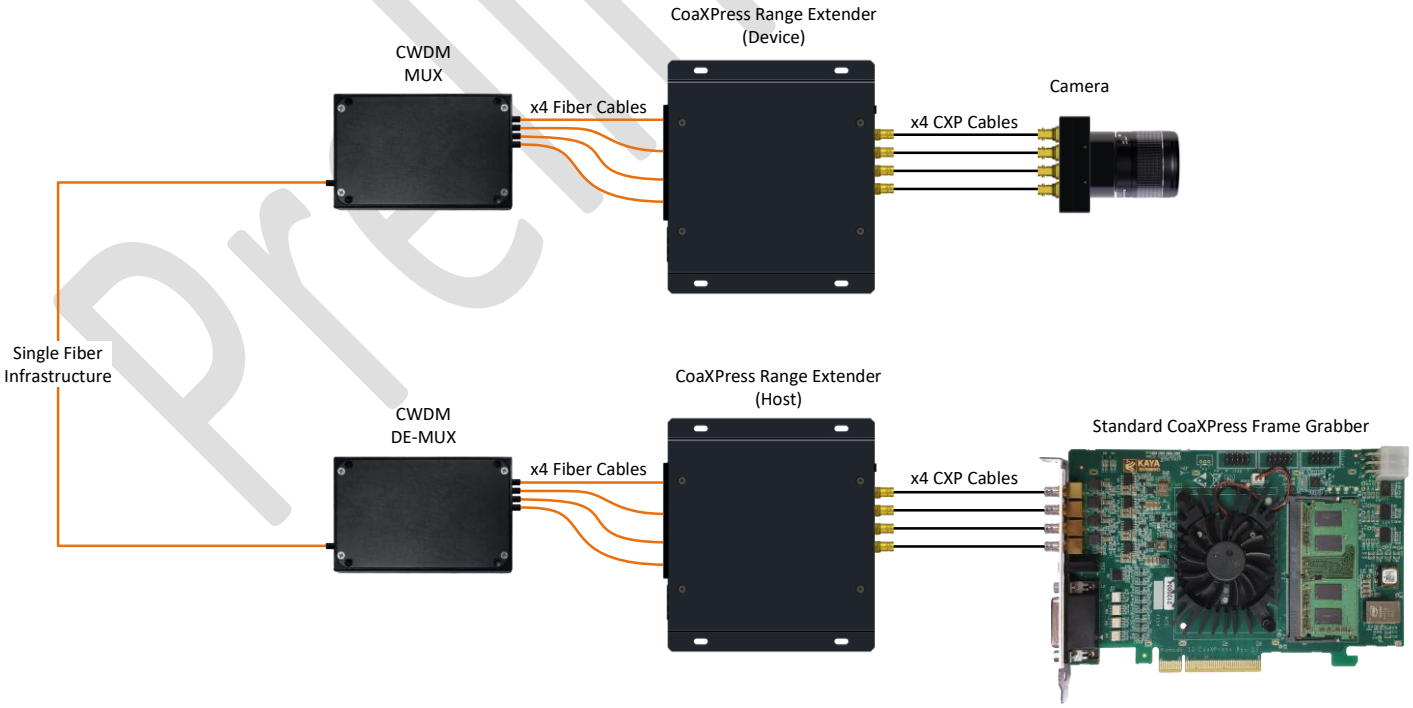
Extender Directly to Frame Grabber:



Extender to Extender:



CWDM:



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- Supported vision standards:

Contact Us

Please feel free to contact our team with any question or further inquiry at **info@kayainstruments.com** – we will be happy to provide assistance and consultation.

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