

USB321A Fiber Extender (Standalone version)



USB3.1 Gen1 (USB3.0/USB2.0) Fiber Extender

USB321-M
USB321-S
USB321-SL
USB321-Cxx



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PRODUCT BRIEF

The USB321A product family is designed to extend the SuperSpeed USB3.1 Gen1 connections beyond the typical 3 meter reach of copper cables. The standalone version of USB321A consists of two individual modules. A PC module directly connects to any USB3.1 Gen1 port on a host such as a PC. A separate RE module (remote module) connects to user's USB3.1 Gen1 devices such as a camera, external hard drive, control panel, or any other USB3.1 Gen1 compatible devices. By placing an optical fiber between the PC and RE modules, the USB321 system can achieve a 300m link distance with a choice of SM or MM fibers. By incorporating swappable optical transceivers, USB321 can be deployed to any existing fiber networks without opening walls or digging trenches.

KEY FEATURES

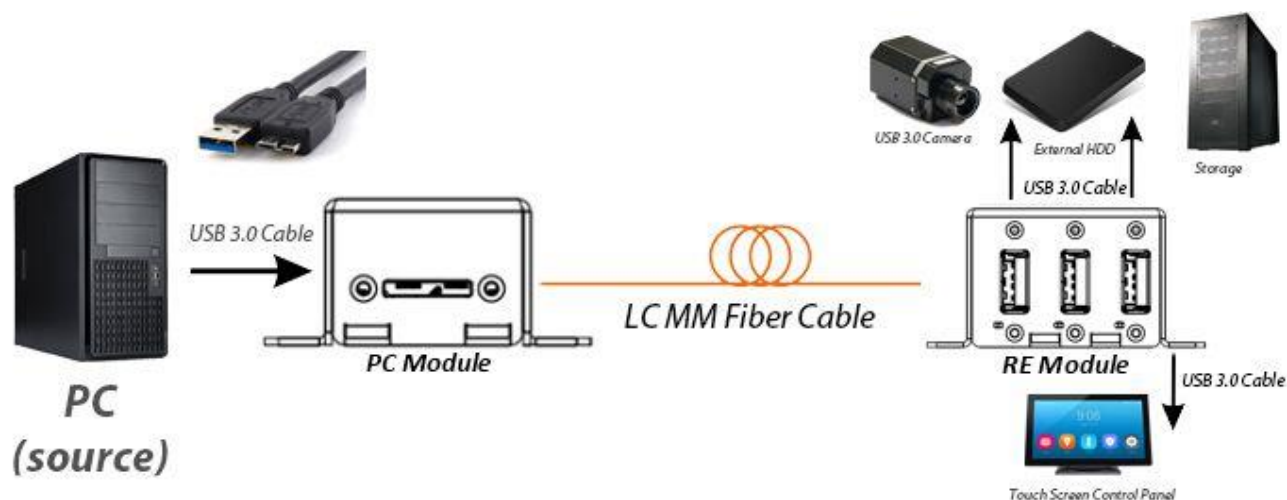
- ❖ Provide 5Gb/s transmission bandwidth for up to three USB3.1 Gen1 devices
- ❖ Supports 3 ports of USB3.1 Gen1 (USB3.0) and USB2.0 devices
- ❖ Compatible with MM, SM fibers and CWDM technologies
- ❖ Available for one fiber solution (LC simplex)
- ❖ Plug and Play, no drivers required
- ❖ LED indicators for system status
- ❖ Provide USB bus power for USB devices
- ❖ Secure power connector with locking mechanism
- ❖ Secure USB connectors with thumbscrew locking mechanism
- ❖ Secure installation with mounting wings
- ❖ Provide optical isolation
- ❖ Compact size

APPLICATIONS

- ❖ Long distance USB3.1 Gen1 and USB2.0 accessories connections
- ❖ USB3Vision applications
- ❖ Remote data storage and transfer
- ❖ Post-production editing
- ❖ Security systems
- ❖ Instant playback for sports events (line call)
- ❖ Video game applications

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TYPICAL SET UP DIAGRAM



TECHNICAL SPECIFICATIONS

Module Specifications

Available Models		USB321-M	USB321-S	USB321-SL	USB321-Cxx
Max Link Distance ^{*1}		150 ~ 350 m (500 ~ 1150 ft)			
Wavelength		850nm	1310nm	1270/1330nm	CWDM grid
Optical output power ^{*2}		-6.5 ~ -1 dBm	-8.2 ~ +0.5 dBm	-8.2 ~ +0.5 dBm	-4 ~ +3 dBm
Optical receiver sensitivity ^{*2}		-11.1 dBm	-14.4 dBm	-14.4 dBm	-14.4 dBm
Required number of fibers		2	2	1	2
Optical Connector Type		LC Duplex	LC Duplex	LC Simplex	LC Duplex
Fiber Type		OM2, OM3, OM4	9/125 um SM		
Input Voltage on RE module		10~ 24V DC			
USB connectors	PC module	USB 3.0 Micro-B receptacle			
	RE module	USB 3.0 Type-A receptacle			
Power Consumption with 1 USB device ^{*3}		3.4W excluding USB bus powered devices			
Power Consumption with 2 USB devices ^{*3}		3.8W excluding USB bus powered devices			
Operating Temperature (standard version)	Case	0 ~ 65 °C			
	Ambient	0 ~ 50 °C			
Operating Humidity		20~80% Non-condensing			
Storage Temperature		-40 ~ 85°C			
Storage Humidity		10~90% Non-condensing			
Dimensions (excluding	PC module	56 x 29 x 21 mm 2.21 x 1.14 x 0.81 inches			

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mounting wings)	RE module	87 x 43 x 30 mm 3.43 x 1.68 x 1.17 inches
Weight (USB321)		PC module: 49g ; RE module: 94g

*1 The link distance will strongly depend on USB host controller, USB device controller and device firmware.

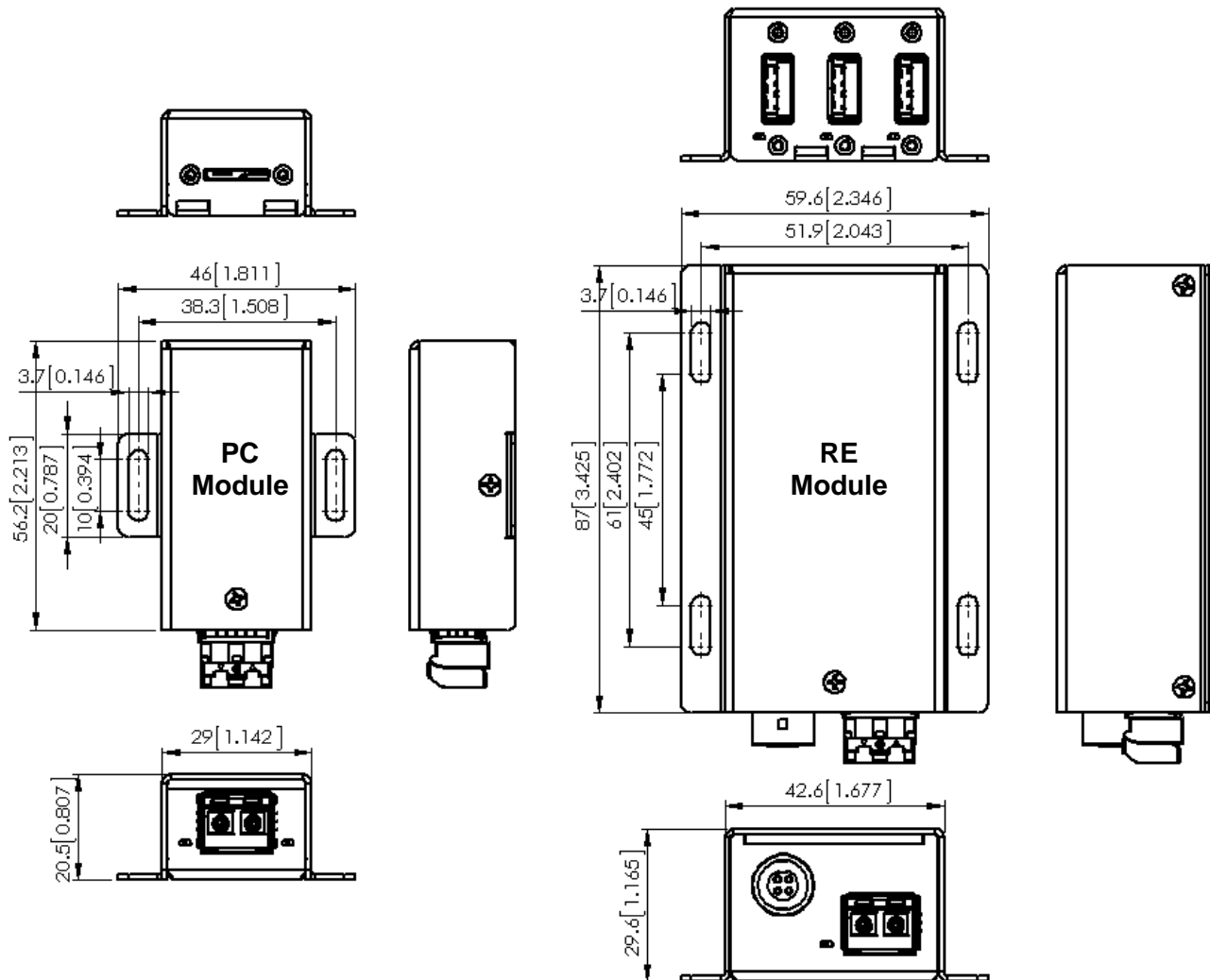
*2 Measured with average optical power

*3 The power consumption was measured with USB321A-M at 25C.

Power Supply Specifications (only apply to RE module)

AC Input	100 ~ 240V AC
DC Output	1.0 A @ 24V DC
DC Plug Part Number	Binder 99-0979-100-04

MECHANICAL INFORMATION (mm)[inch]



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ORDERING INFORMATION

Standard models

Ordering Part #	Link Distance	Fiber type	Connector type	Items included
USB321-M	300m (1000 ft)	2x OM2 or OM3 or OM4 fiber	LC duplex	1x USB321A-M-PC module 1x USB321-M-RE module 1x 24W wall mount power supply
USB321-S	300m (1000 ft)	2x SM fiber	LC duplex	1x USB321A-S-PC module 1x USB321-S-RE module 1x 24W wall mount power supply
USB321-SL	300m (1000 ft)	1x SM fiber	LC simplex	1x USB321A-SL-PC module 1x USB321-SL-RE module 1x 24W wall mount power supply

CWDM models (user needs to specify wavelength for both -PC and -RE device)

Ordering Part #	Tx Optical Wavelength	Rx Optical range	Connector type	Items included
USB321-C27-xx	1270 nm	1260 ~ 1620 nm	LC duplex	1x USB321-Cxx-PC module 1x USB321-Cxx-RE module 1x 24W wall mount power supply
USB321-C29-xx	1290 nm			
USB321-C31-xx	1310 nm			
USB321-C33-xx	1330 nm			
USB321-C35-xx	1350 nm			
USB321-C37-xx	1370 nm			
USB321-C39-xx	1390 nm			
USB321-C41-xx	1410 nm			
USB321-C43-xx	1430 nm			
USB321-C45-xx	1450 nm			
USB321-C47-xx	1470 nm			
USB321-C49-xx	1490 nm			
USB321-C51-xx	1510 nm			
USB321-C53-xx	1530 nm			
USB321-C55-xx	1550 nm			
USB321-C57-xx	1570 nm			
USB321-C59-xx	1590 nm			
USB321-C61-xx	1610 nm			

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Accessory

Part #	Description
FD-GE24I24-BD	24W, DC 24V international wall mount AC/DC adapter with Binder plug
FDUSB3-A-MB-3	3 ft USB3.0 cable type A plug to Micro-B plug
LC-LC-M2-D-xxxM	LC to LC duplex 50/125 μ m OM2 MM fiber. xxx = desired length in meters.
LC-LC-M3-D-xxxM	LC to LC duplex 50/125 μ m OM3 MM fiber. xxx = desired length in meters.
LC-LC-S-D-xxxM	LC to LC duplex 9/125 SM fiber. xxx = desired length in meters.



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