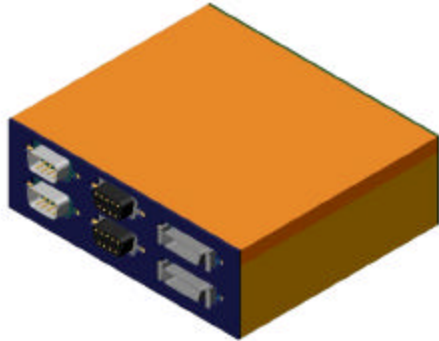


Dual Base Camera Link™ Optical eXtender



■ PHOX™ Camera Link Optical eXtender system

INTRODUCTION

Camera Link™ is a high-speed camera/frame grabber interface designed for high performance vision applications. However, normal copper links can only deliver the signal for 10 meters or shorter, which prevents it from being used in many applications where longer distance image transmission is required between the camera and the frame grabber. To overcome such limitations, we designed our high-performance Camera Link™ Optical eXtender (**PHOX**) product to extend the data transmission distance up to 50 kilometers over fiber-optic links without any kind of repeaters or amplifiers in between. **PHOX** provides an excellent solution for applications that use Camera Link™ standard and require long-haul image data transmission.

KEY FEATURES

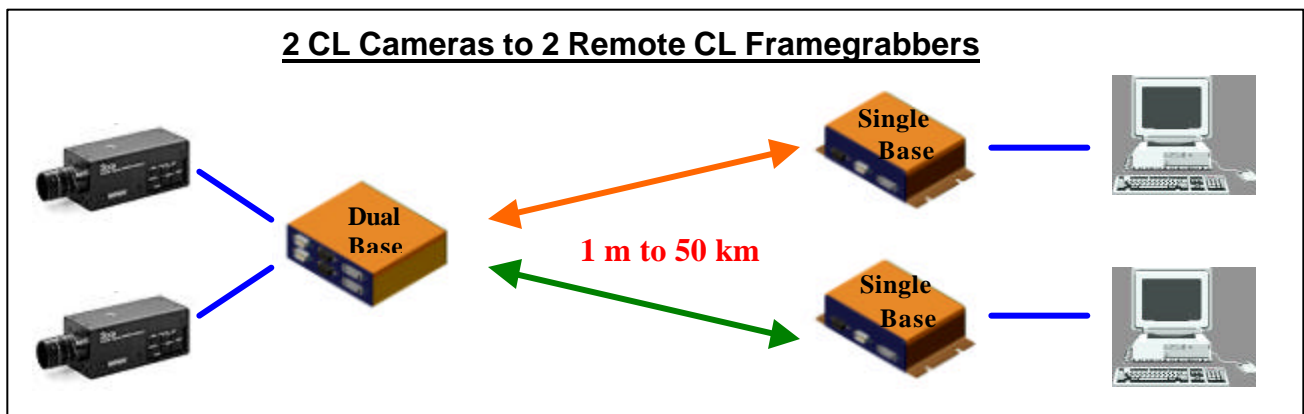
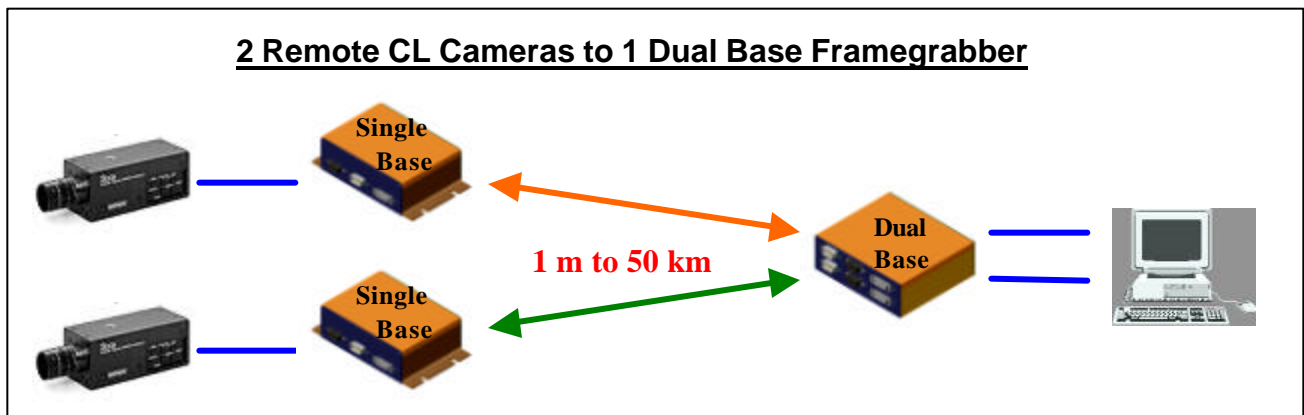
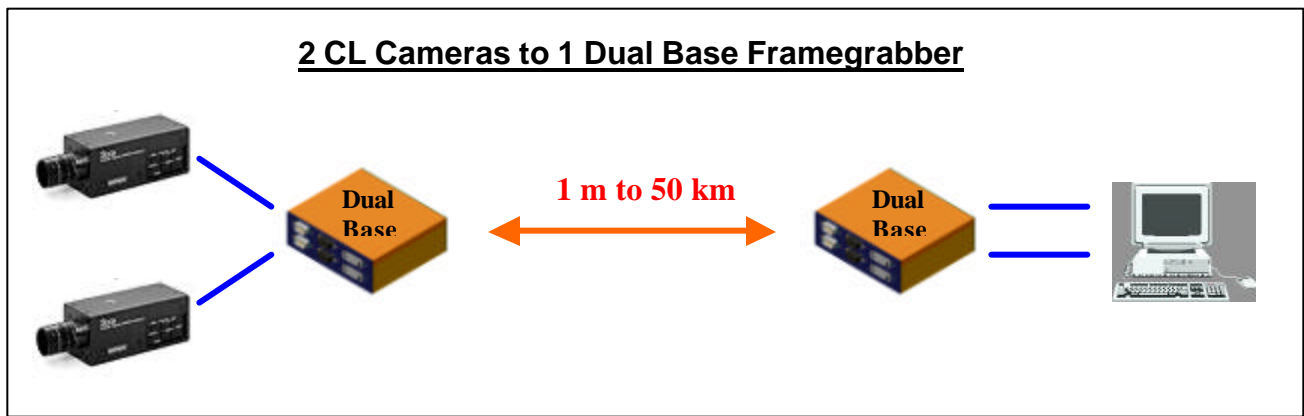
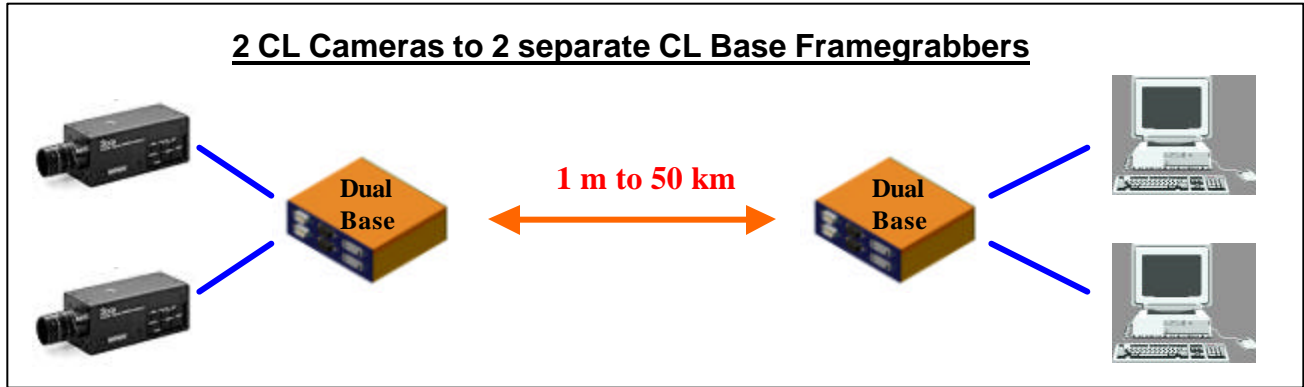
- Fully supports two unsynchronized base Camera Link™ cameras/frame grabbers
- Provides 4Gb/s transport bandwidth - 24b/pixel and pixel clock rate up to 66MHz for each camera
- Zero loss and transparent transport – no changes required for camera and/or frame grabber
- Two LC duplex fiber interface
- 8 opto-isolated GPIO channels (4 inputs and 4 outputs) for external trigger and control
- Two full duplex RS232 for remote instrument control
- Single 5V~24V DC power supply on both ends
- Locking AC/DC power adapter
- Individual transmission distance selection depending on your choice of fiber:
 - Multi-mode fiber – up to 250m
 - Single-mode fiber – up to 50km

DESCRIPTION

The PHOX™ dual-base system consists of a pair of extender modules, PHOX-CM connecting to two unsynchronized cameras and PHOX-FG connecting to the frame grabber (or PC). The PHOX-CM receives video data from each camera through a copper Camera Link cable, converts the data into optical signals and sends them out through optical fiber. The PHOX-FG receives the optical signals, converts them back into video data and sends them out to two individual frame grabbers or one dual base frame grabber through a copper Camera Link cable. Images from the two cameras can be processed separately and cameras can be individually controlled. PHOX™ dual-base system can be seamlessly integrated with our PHOX™ single base system to create flexible system topology. Most importantly, the PHOX system is totally transparent to the camera and the frame grabber.

PHOX™ Dual Base Optical eXtender

SYSTEM FLEXIBILITY



PHOX™ Dual Base Optical eXtender

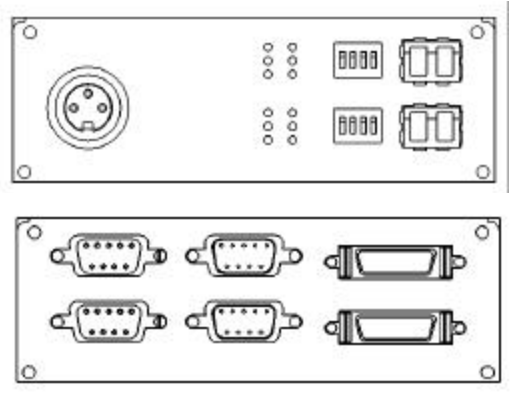
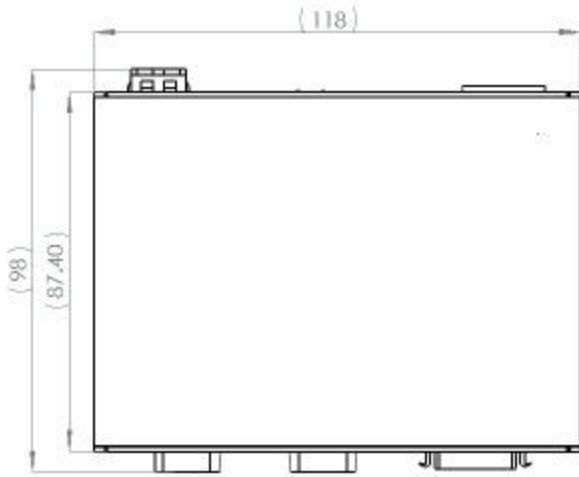
TECHNICAL SPECIFICATIONS

Camera Link Interface		
Max Pixel Clock	66 MHz	
Max Data Width per Pixel	24 bits	
Compatibility	Full Camera Link base mode	
Connector Type	MDR 26 pin	
Opto-isolated GPIO Interface		
Number of I/O Channels	4 input and 4 output (all are opto-isolated)	
Operating Voltage	0~3.3V (0~5.0V optional)	
Max. Data Rate	1 Mbps	
Connector Type	DB9 male	
RS232 Interface		
Number of Data Channels	8 (2 sets of RxD TxD RTS CTS)	
Operating Voltage	Input: +/- 25V, Output: +/- 6V	
Max Data Rate	250 Kbps	
Connector Type	DB9 female	
Optical Interface		
Operating Wavelength	PHOX-B2M-00250	850 nm
	PHOX-B2L-10	1310 nm
	PHOX-B2L-20	1310 nm
	PHOX-B2L-40	1550 nm
	PHOX-B2L-50	1550 nm
Optical Tx Output Power	PHOX-B2M-00250	-9.5 to -4 dBm
	PHOX-B2L-10	-10 to -3 dBm
	PHOX-B2L-20	-5 to 0 dBm
	PHOX-B2L-40	-5 to 0 dBm
	PHOX-B2L-50	-2 to +3 dBm
Min Optical Rx Power	PHOX-B2M-00250	-17 dBm
	PHOX-B2L-10	-18 dBm
	PHOX-B2L-20	-18 dBm
	PHOX-B2L-40	-18 dBm
	PHOX-B2L-50	-18 dBm
Fiber Type	PHOX-B2M series	62.5/125 µm or 50/125 µm multimode fiber
	PHOX-B2L series	9/125 µm single mode fiber
Connector Type	LC duplex	
General Electrical Specification		
Input Voltage	DC 5 ~ 24 V	
Supply Current	600 mA each module	
Typical Power Consumption	7.2 W each module	
Connector Type	Switchcraft TA3F locking connector	

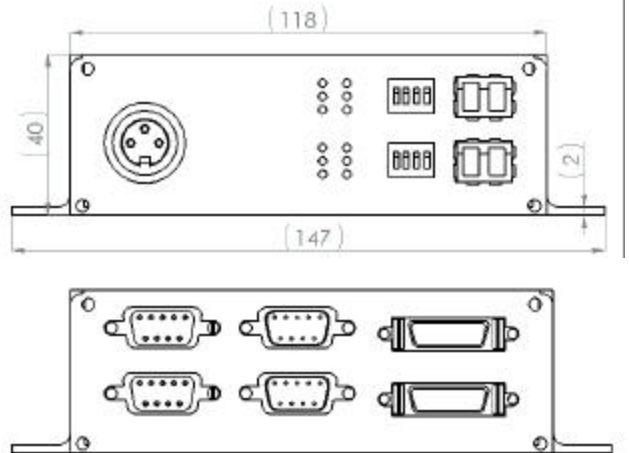
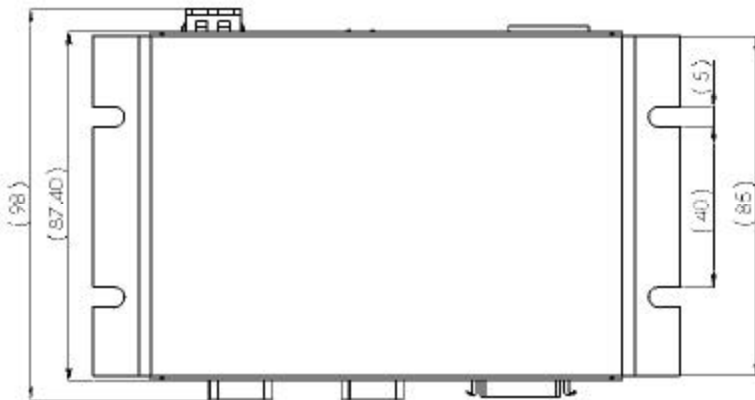
PHOX™ Dual Base Optical eXtender

MECHANICAL INFORMATION (mm)

Option 1 – without mounting wings

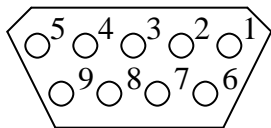


Option 2 – with mounting wings



RS232 PIN ASSIGNMENT (FEMALE DB9)

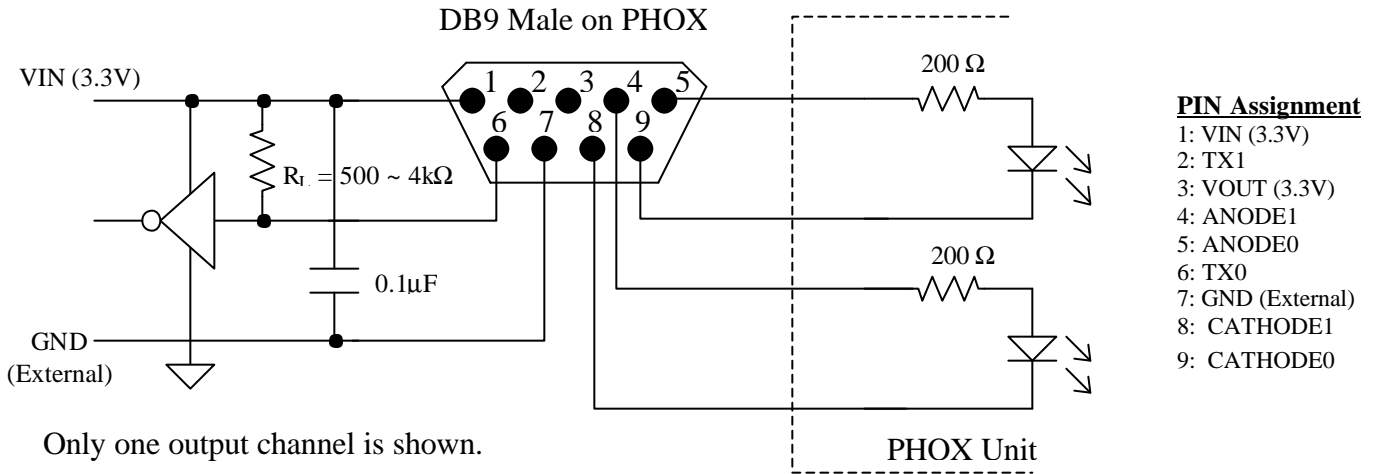
DB9 Female on PHOX



- 1: N/C
- 2: Data Tx
- 3: Data Rx
- 4: N/C
- 5: GND
- 6: N/C
- 7: CTS (Clear To Send)
- 8: RTS (Request To Send)
- 9: N/C

PHOX™ Dual Base Optical eXtender

GPIO PIN ASSIGNMENT (MALE DB9)



ORDERING INFORMATION

System Model #	Transport Distance	Check List
PHOX-B2M-00250	Up to 250 meters*	1x PHOX-CM 1x PHOX-FG 4x DB9 M/F RS232 cable (6ft) 2x 120AC/12DC power adapters with locking plug (Multi-mode fiber LC duplex not included)
PHOX-B2L-XX	Up to 50 kilometers*	1x PHOX-CM 1x PHOX-FG 4x DB9 M/F RS232 cable (6ft) 2x 120AC/12DC power adapters with locking plug (Single-mode fiber LC duplex not included)

- Note: xx = Maximum transporting distance in kilometers.
- * Distance depending on fiber type and system design. 250 m transmission distance for PHOX-BM is based on 50/125 MM fiber. Extra optical losses in the system will reduce the maximum transmission distance.

To Place An Order, please call or email us:

Please call us at (800) 785-5995(toll free for US) or email:

sales@imagelabs.com

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