

# PHOX™

## KEY FEATURE

- ❖ Fully supports base Camera Link™ cameras/frame grabbers
- ❖ Provides 2Gb/s transport bandwidth – up to 24 bits and 66 MHz pixel clock (85MHz optional)
- ❖ Zero loss and transparent transport – no changes required for camera and/or frame grabber
- ❖ One LC duplex fiber interface
- ❖ 4 opto-isolated GPIO channels (2 inputs and 2 outputs) for external trigger and control
- ❖ Full duplex RS232 for remote instrument control
- ❖ Single 5V~24V DC power supply
- ❖ Locking AC/DC power adapter
- ❖ Transmission distance depending on your choice of fiber:
  - o Multi-mode fiber – up to 250m
  - o Single-mode fiber – up to 50km

## APPLICATIONS

- ❖ High precision security surveillance (e.g. border control, airport)
- ❖ Bar code reading and sorting (e.g. postal center, packaging)
- ❖ Vehicle license plate reading/recording (e.g. toll booth)
- ❖ Product inspection (e.g. automated production line)
- ❖ Port/Harbor cargo container management
- ❖ Railroad measurement/inspection
- ❖ Traffic surveillance/control
- ❖ Cameras placed in harsh environment (e.g. nuclear plant)
- ❖ Long haul image transmissions (e.g. bridge inspection)
- ❖ Other Machine Vision Applications

**PHRONTIER™**  
TECHNOLOGIES

## PHOX™ Camera Link Fiber Extender

### Base Configuration

PHOX-BM-00250  
PHOX-BL-10/20/40/50



PHOX Front View

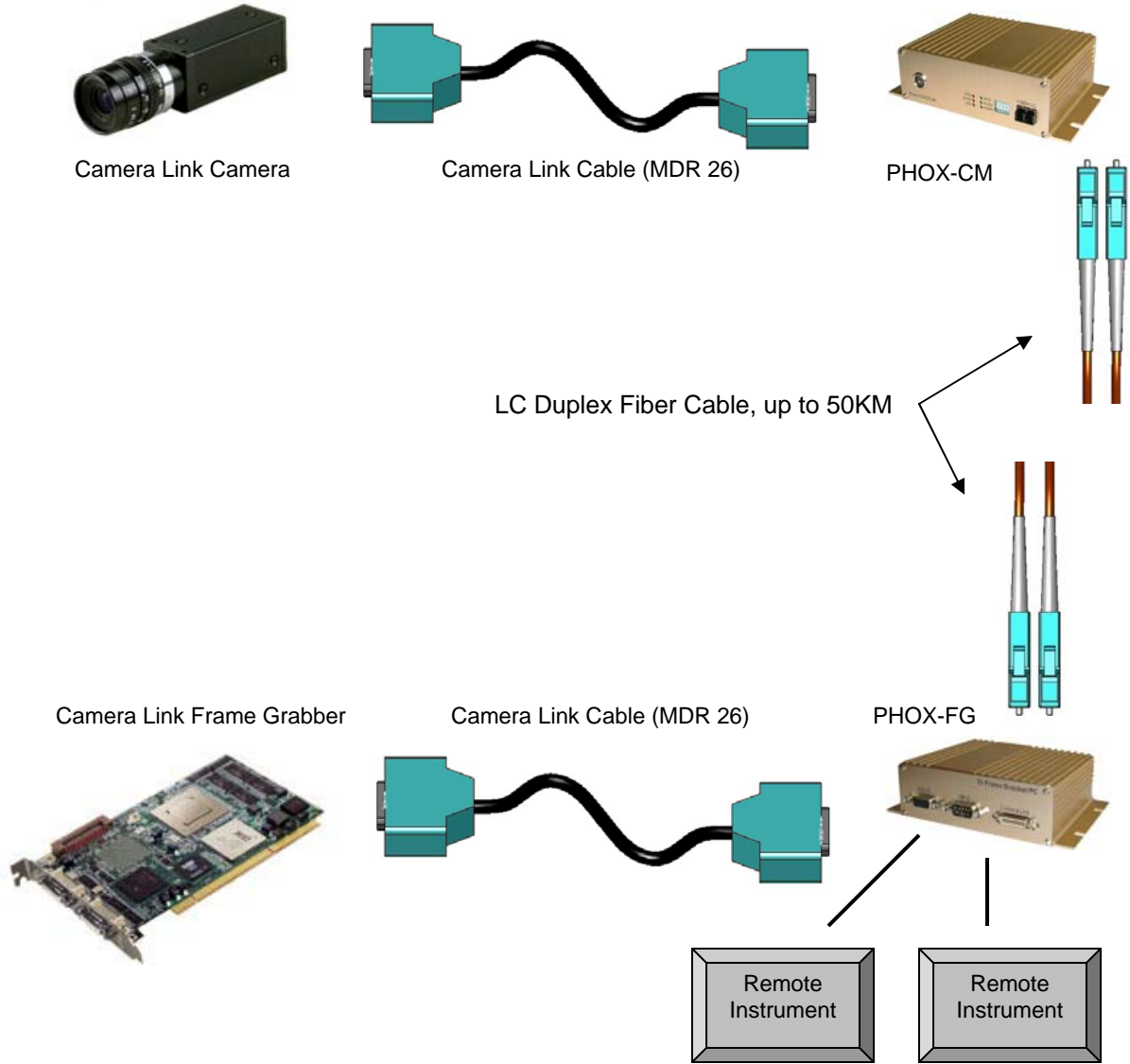


PHOX Back View



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**TYPICAL SET UP DIAGRAM**



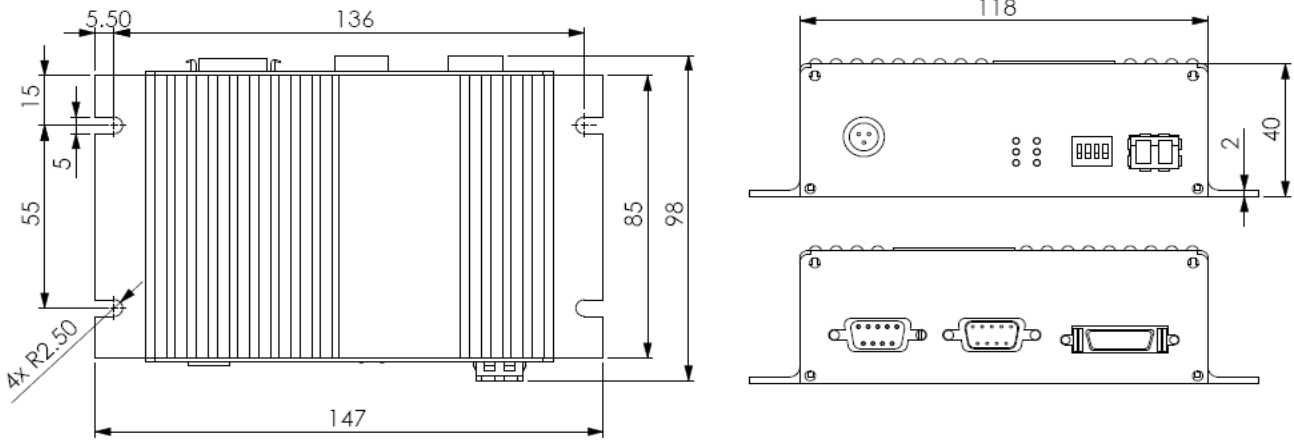
Fiber Guide

- Use 62.5/125 MM fiber for <150 m
- Use 50/125 MM fiber for <250 m
- Use 9/125 SM fiber for <50 km

## TECHNICAL SPECIFICATIONS

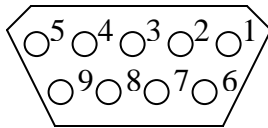
<b>Camera Link Interface</b>		
Max Pixel Clock	66 MHz (85MHz optional)	
Max Data Width per Pixel	24 bits	
Compatibility	Full Camera Link base mode	
Connector Type	MDR 26 pin	
<b>Opto-isolated GPIO Interface</b>		
Number of I/O Channels	2 input and 2 output (both are opto-isolated)	
Operating Voltage	0~3.3V (5V with external supply)	
Max. Data Rate	1 Mbps	
Connector Type	DB9 male	
<b>RS232 Interface</b>		
Number of Data Channels	4 – RxD TxD RTS CTS	
Operating Voltage	Input: +/- 25V, Output: +/- 6V	
Max Data Rate	250 Kbps	
Connector Type	DB9 female	
<b>Optical Interface</b>		
Operating Wavelength	PHOX-BM-00250	850 nm
	PHOX-BL-10	1310 nm
	PHOX-BL-20	1310 nm
	PHOX-BL-40	1550 nm
	PHOX-BL-50	1550 nm
Optical Tx Output Power	PHOX-BM-00250	-9.5 to -4 dBm
	PHOX-BL-10	-10 to -3 dBm
	PHOX-BL-20	-5 to 0 dBm
	PHOX-BL-40	-5 to 0 dBm
	PHOX-BL-50	-2 to +3 dBm
Min Optical Rx Power	PHOX-BM-00250	-17 dBm
	PHOX-BL-10	-18 dBm
	PHOX-BL-20	-18 dBm
	PHOX-BL-40	-18 dBm
	PHOX-BL-50	-18 dBm
Connector Type	LC duplex	
Fiber Type	PHOX-BM series	62.5/125 $\mu$ m or 50/125 $\mu$ m multimode fiber
	PHOX-BL series	9/125 $\mu$ m single mode fiber
<b>General Electrical Specification</b>		
Input Voltage	DC 5 ~ 24 V	
Supply Current	300 mA @12V each module	
Typical Power Consumption	3.6 W each module	
Operating Temperature	0 ~ 60°C (non-condensing)	
Connector Type	Switchcraft TA3FX locking connector	
Approx. Weight (each module)	310 gram	

**MECHANICAL INFORMATION (mm)**



**RS232 PIN ASSIGNMENT (FEMALE DB9)**

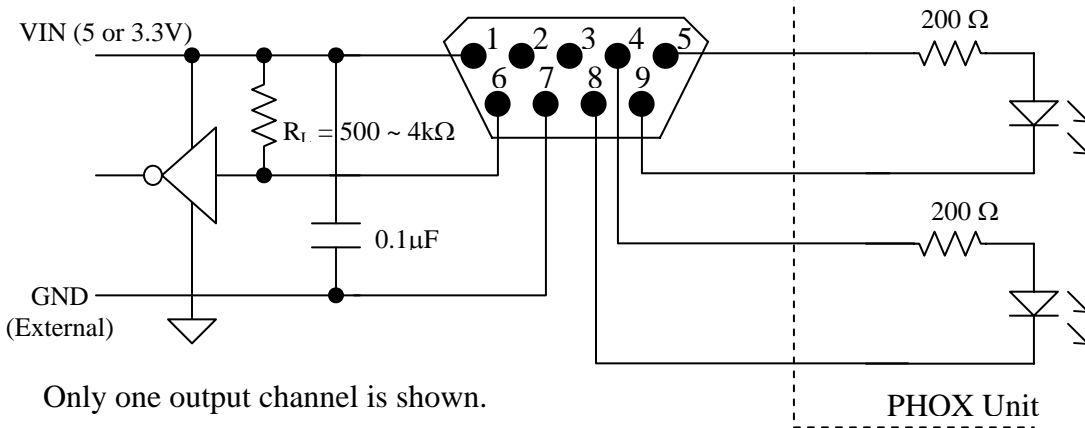
DB9 Female on PHOX



- 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

**GPIO PIN ASSIGNMENT (MALE DB9)**

DB9 Male on PHOX



Only one output channel is shown.

**PIN Assignment**

- 1: VIN (5 or 3.3V)
- 2: TX1
- 3: VOUT (3.3V)
- 4: ANODE1
- 5: ANODE0
- 6: TX0
- 7: GND (External)
- 8: CATHODE1
- 9: CATHODE0

**ORDERING INFORMATION**

<b>Model #</b>	<b>Transport Distance</b>	<b>Check List</b>
PHOX-BM-00250	Up to 250 meters*	1x PHOX-CM 1x PHOX-FG
PHOX-BL-xx	Up to 50 kilometers*	2x 12DC international wall mount AC/DC power adapters with locking plug (LC duplex fiber cable not included)

- Note: xx = Maximum transporting distance in kilometers. Available in 10KM, 20KM, 40KM, and 50KM.
- \* 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.



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