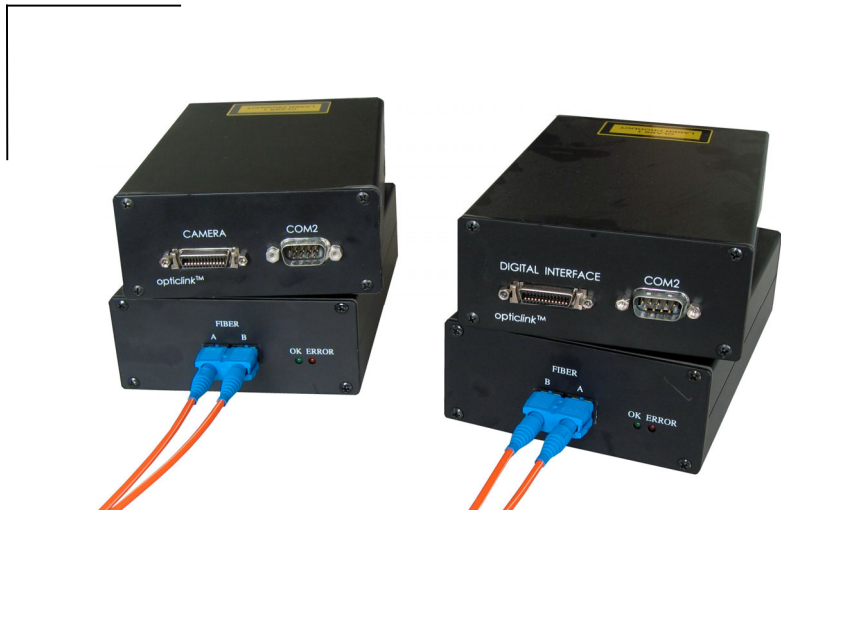


## Datasheet opticlink™ CL models



### Key features

- CameraLink video interface models:
  - CL Base 16-bit
  - CL Base 24-bit
  - CL Medium 48-bit
  - CL Full 64-bit
  - CL Dual Base 24-bit
- each model is available for
  - multi mode fiber, maximum length: 500 meter
  - single mode fiber, maximum length: 10 kilometer (optional: 40 to 60 kilometer)
- up to 66 MHz pixel clock  
(CL Base 16-bit 55 MHz, optional 62.5 MHz)
- transmission of:
  - video data and synchronisation
  - two RS-232 channels
  - control signals
- two units:
  - C2F converts CameraLink data to fiber
  - F2C converts fiber back to digital video
- unit C2F Base 16 connects directly to picasso™ PCI-FI and cPCI-FI framegrabber
- fiber link benefits:
  - does not radiate
  - is not susceptible of electromagnetic interference
  - difficult to tap (secure connection)
  - no grounding problems

## General

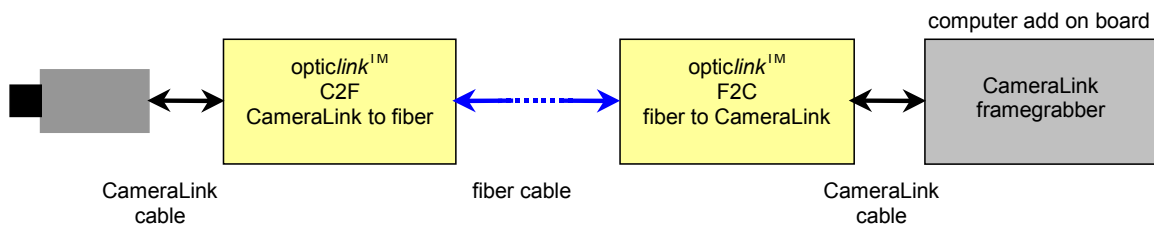
The *opti**link**<sup>TM</sup>* CL models offer long haul video transmission over fiber optics cable. These interfaces can be used for transmission of CameraLink video data up to 40 to 60 kilometer without optical repeaters.

It is a transparent interface, so it is compatible with almost all available CameraLink cameras and third party framegrabbers.

The *opti**link**<sup>TM</sup>* transmits not only video data from camera to framegrabber, but also one or two bidirectional RS-232 channels and camera control signals from framegrabber to camera are transmitted.

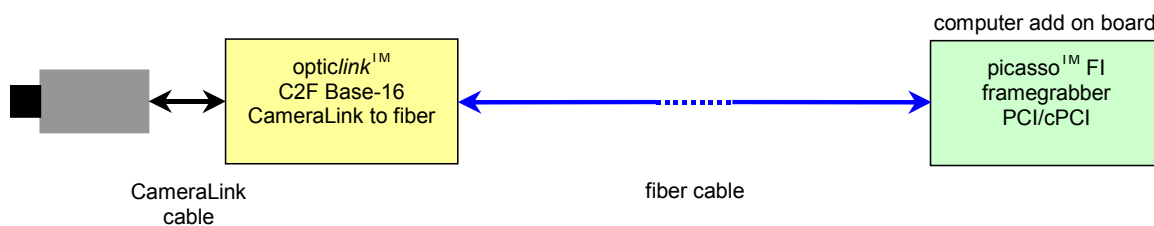
## System

### *opti**link**<sup>TM</sup>* set solution



The generated CameraLink signals of the camera will be converted to fiber signals by the *opti**link**<sup>TM</sup>* C2F. The *opti**link**<sup>TM</sup>* F2C converts the fiber data to the original CameraLink signals and can be acquired by a framegrabber (eg the *picasso<sup>TM</sup>* CL or *Leonardo<sup>TM</sup>*). The CameraLink-fiber-CameraLink conversions are entirely transparent, delays are not introduced.

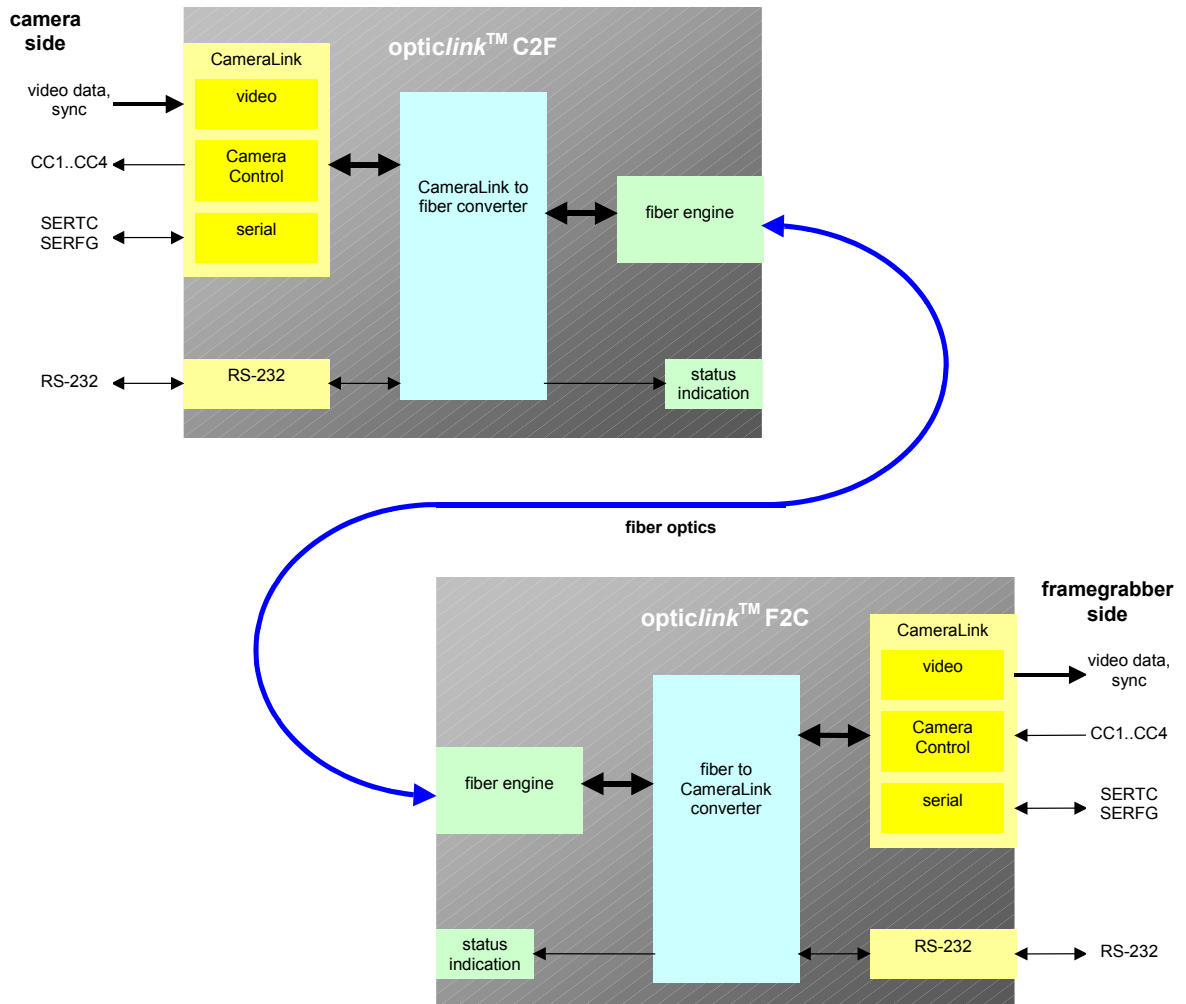
### compact solution



This system consists of one *opti**link**<sup>TM</sup>* C2F Base-16 unit and one computer add on board: the *picasso<sup>TM</sup>* FI available for standard PCI and Compact PCI. This framegrabber has a direct fiber input.

This solution eliminates the *opti**link**<sup>TM</sup>* F2C Base-16 unit.

## Architecture





## Technical Specifications

### opticlink™ CL 16/24/48/64

Model	Base-16	Base-24	Medium-48	Full-64
<b>Fiber interface</b>				
Fiber type	multi mode or single mode			
Max fiber length	multi-mode: 500 meter single-mode: 10 kilometer (optional: up to about 40 to 60 kilometer)			
Fiber transceivers	1, full duplex	2, full duplex	3, full duplex	4, full duplex
Fiber connector	1x SC-duplex	2x MT-RJ	3x MT-RJ	4x MT-RJ
#duplex fibers in link	1	2	3	4

<b>CameraLink interface</b>				
CameraLink interface	Base 16 (tap A, B)	Base 24 (tap A, B, C)	Medium 48 (tap A, B, C, D, E, F)	Full 64 (tap A, B, C, D, E, F, G, H)
Pixel data	up to 16-bit	up to 24-bit	up to 48-bit	up to 64-bit
Pixel clock	up to 55 MHz (optional 62.5 MHz)	up to 66 MHz	up to 66 MHz	up to 66 MHz
Video timing	FVAL LVAL STROBE			
DVAL in video timing	optional	yes	optional	optional
Camera Control	CC1 to CC4			
Serial communication	SERTC SERTFG			
#CameraLink connectors (MDR 26-pins)	1	1	2	2

### RS-232 interface

#RS-232 channels	0 or 1* full duplex	2 full duplex	0, 1 or 2* full duplex	0 or 1* full duplex
#RS-232 connectors (sub-D9)	1	2	2	1

<b>General</b>				
Power connector	4-pins subminiature round male connector Thomas & Betts: subminiature connector Triad '01' Binder: subminiature 'Circular Series 712'			
Dimensions (l x w x h)	160 x 105 x 44 mm			
Supply voltage	5.5 V to 6.5 V		4.5 V to 5.5 V	
Typical power consumption	7.8 W	5.0 W	9.5 W	9.5 W
Operating temperature	0° C to 70° C			

\* the number of RS-232 channels may decrease if using DVAL option or CameraLink 4 x 12 bit mode. Contact ARVOO for more information

## **opticalink™ CL Dual Base-24**

### **Fiber interface**

Fiber type	multi mode or single mode
Max fiber length	multi-mode: 500 meter single-mode: 10 kilometer (optional: up to about 40 to 60 kilometer)
Fiber transceiver	4, full duplex
Fiber connector	4x MT-RJ
#duplex fibers in link	4

### **CameraLink interface**

CameraLink interface	Dual Base 24 (2x tap A, B, C)
Pixel clock	up to 66 MHz
Pixel data	up to 24-bit dual channel
Video timing	2x FVAL 2x LVAL 2x STROBE 2x DVAL
Camera Control	2x CC1 to CC4
Serial communication	2x SERTC 2x SERTFG
#CameraLink connectors (MDR 26-pins)	2

### **RS-232 interface**

RS-232 channel	2, full duplex
#RS-232 connectors (sub-D9)	2

### **General**

Power connector	4-pins subminiature round male connector Thomas & Betts: subminiature connector Triad '01' Binder: subminiature 'Circular Series 712'
Dimensions (l x w x h)	160 x 105 x 44 mm
Supply voltage	4.5 V to 5.5 V
Typical power consumption	9.5 W
Operating temperature	0° C to 70° C



## Options

### ***Hardware Modifications***

extended pixel clock range, up to 62.5 MHz (only for CL Base-16)

extended fiber length modification (up to about 40 to 60 km)

CameraLink DVAL in transmission line

DIN-rail enclosure

4 screw mount enclosure