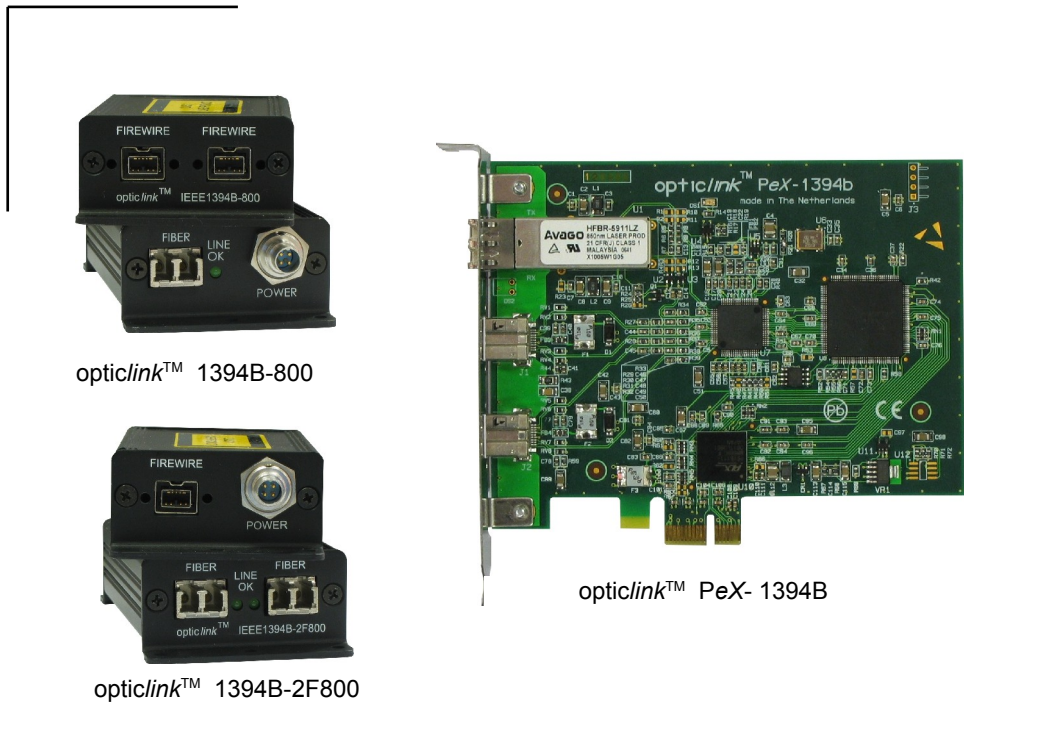


Datasheet opti**link**™ 1394B models



opti**link**™ 1394B-800

opti**link**™ 1394B-2F800

opti**link**™ PeX- 1394B

Key features

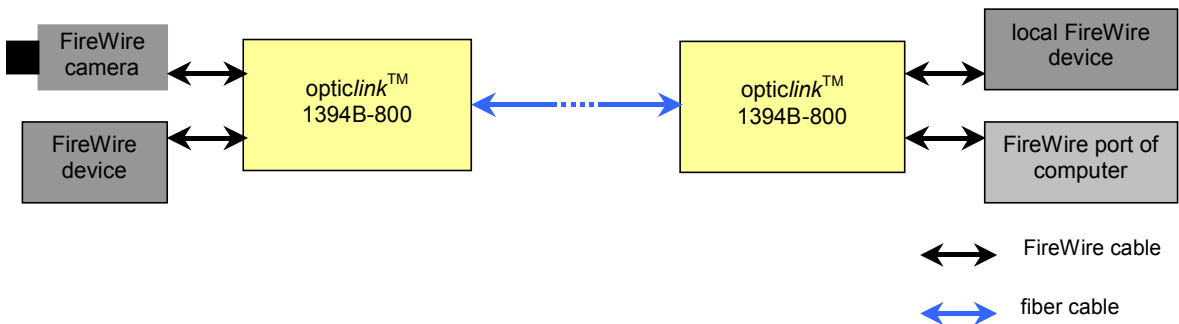
- IEEE1394B (FireWire 800) video interfaces
- available in three models:
 - opti**link**™ 1394B-800
 - opti**link**™ 1394B-2F800
 - opti**link**™ PeX-1394B
- LC-duplex fiber connector conform the IEEE1394 specification
- small case dimensions: 104 x 55 x 27 mm (fiber interface)
- supports S100, S200, S400 and S800 transmission
- backwards compatible with IEEE1394 (FireWire 400)
- up to 500 meter fiber cable length
- full compatibility with FireWire™, SB1394™ and i.LINK™
- opti**link**™ PeX-1394B is fully compliant to OHCI Specification 1.1
- supports a wide range of devices: video, mass storage, still cameras etc.
- wide power supply range: 6V..40V (1394B-800 and 1394B-2F800)
- opti**link** 1394B-800 and opti**link** 1394B-2F800 is optional available in industrial temperature range (-40..85°C)
- hot pluggable
- fiber link benefits:
 - does not radiate
 - is not susceptible of electromagnetic interference
 - difficult to tap (secure connection)
 - no grounding problems

General

The opti**link**™ 1394B provides long haul IEEE1394B transmission over fiber optics cable. This interface can be used for transmission of FireWire (video) data up to 500 meter without repeaters.

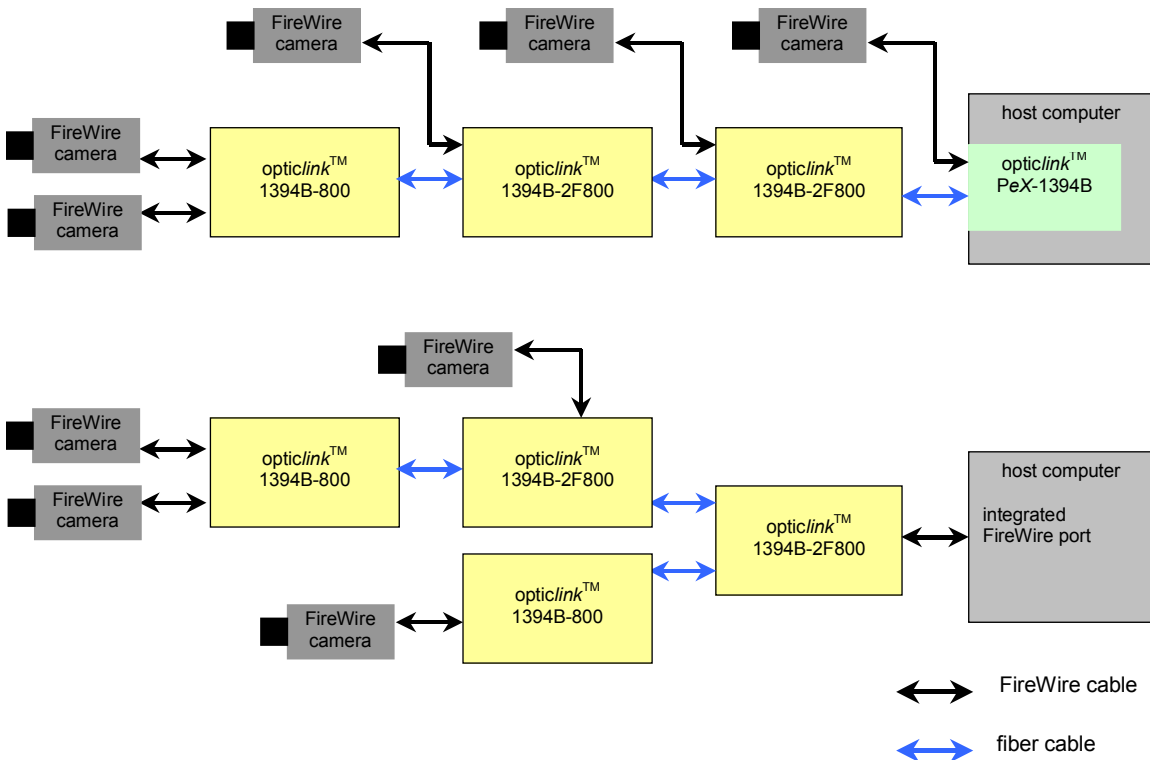
It is a transparent interface, so it can be applied for various FireWire devices. The opti**link**™ 1394B offers data rates up to 800 megabits per second (Mbps)

System

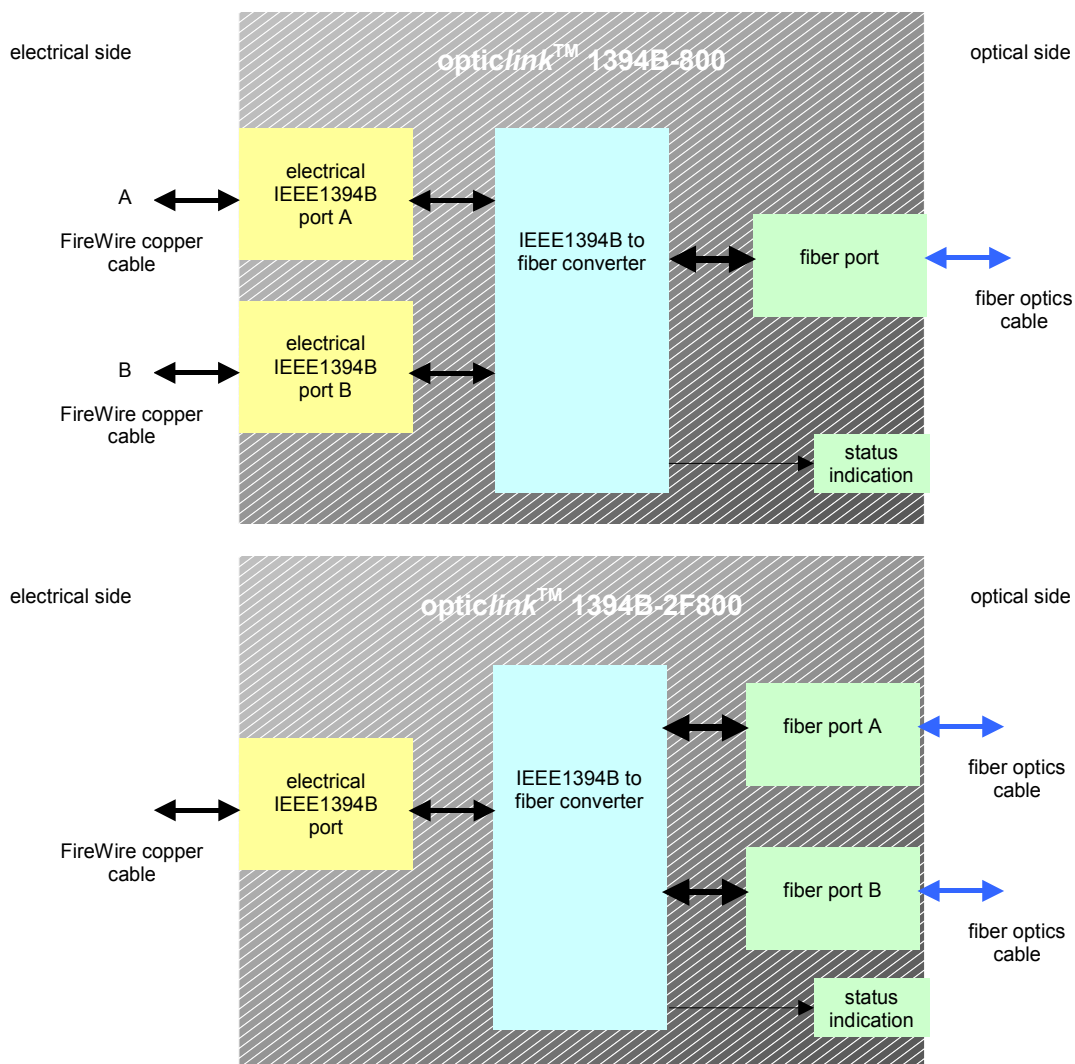


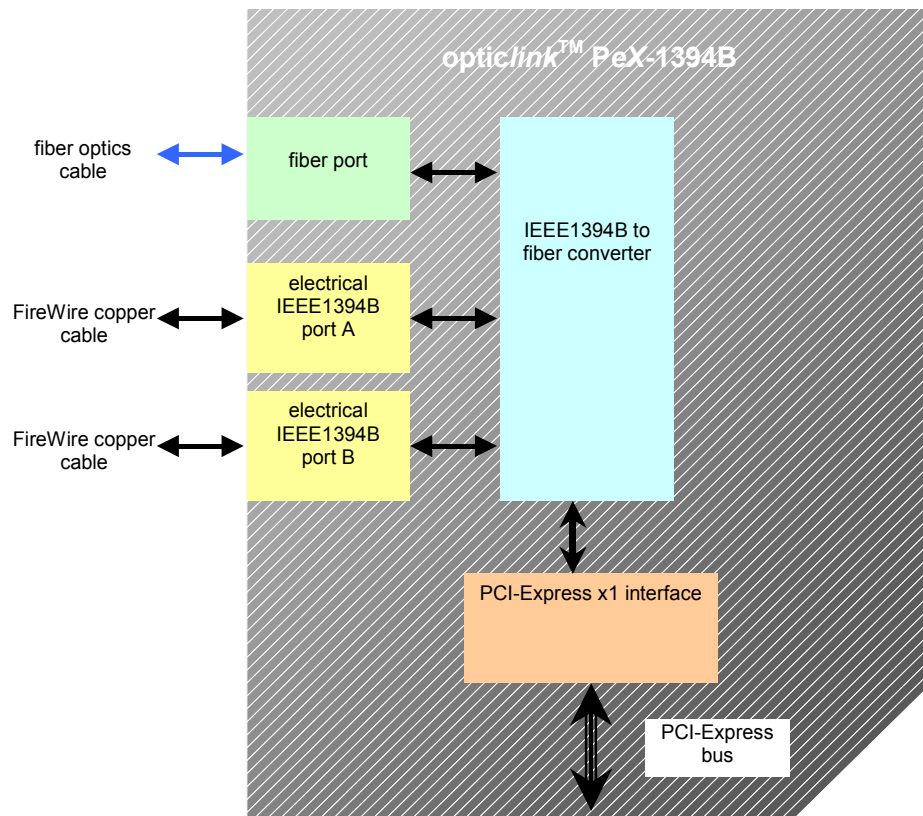
The generated FireWire signals of the camera will be converted to optical signals by the opti**link**™ 1394B-800. The other opti**link**™ unit converts the optical data back to the original FireWire signals, that can be received by a standard FireWire port.

The FireWire-fiber-FireWire conversions are entirely transparent, so the camera and framegrabber do not notice the opti**link**™.



Architecture



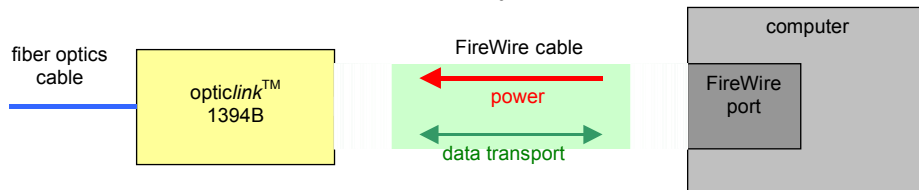


Power supply

The copper FireWire cable is designed to transport data and power. So FireWire devices (like the *opticlink™* 1394B) does not always need an external power supply. There are four situations:

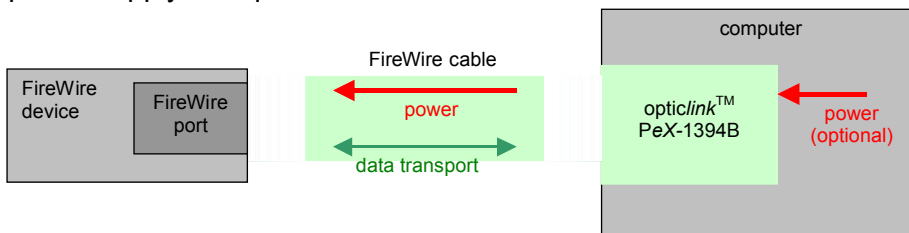
Use power of a computer (1)

The integrated FireWire port of the computer powers the *opticlink™* 1394B by the FireWire copper cable. No external power supply is required.



Use power of a computer (2)

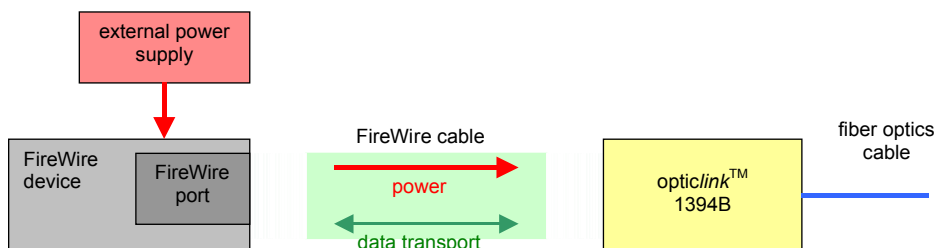
The FireWire port of the *opticlink™* PeX-1394B powers the FireWire device. No external power supply is required.



If FireWire device needs more then 6W the optional power input of the *opticlink™* PeX-1394B should be used.

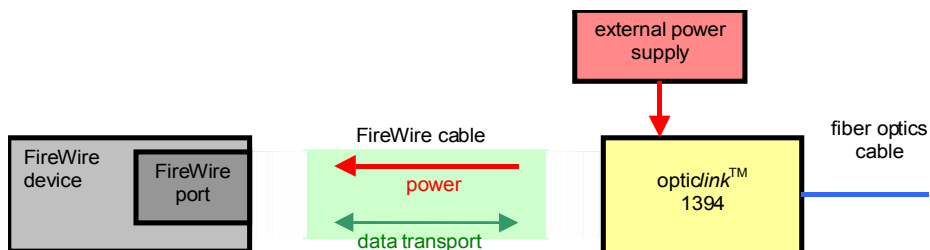
Use power of an external power supply (1)

A FireWire device (eg. a camera) is powered by an external power supply. Via the FireWire copper cable the *opticlink™* 1394B is powered too. The *opticlink™* 1394B doesn't require an external power supply.



Use power of an external power supply (2)

In this situation the opticalink™ 1394B is powered by an external power supply. The FireWire copper cable will power the FireWire device too. The external power supply should be compliant to the power specification of the opticalink™ 1394B *and* the FireWire device. The opticalink™ 1394B is able to power 15 W per port.



Technical Specifications

opticlink™ 1394B

Model	1394B-800	1394B-2F800	PeX-1394B
fiber interface			
Fiber type	multi mode, 850nm		
Max fiber length	500 meter (50/125µm fiber) 270meter (62.5/125µm fiber)		
Fiber tranceiver	one full duplex transceiver	two full duplex transceivers	one full duplex transceiver
Fiber connector	1x LC duplex	2x LC duplex	1x LC duplex

electrical interface

IEEE Standard compliance	IEEE1394b-2002 IEEE1394a-2000 1394-1995		
Bilingual support	yes	yes	yes
Data rates (Mbps)	100, 200, 400, 800	100, 200, 400, 800	100, 200, 400, 800
Connector	2x 9 pin IEEE1394b-2002	1x 9 pin IEEE1394b-2002	2x 9 pin IEEE1394b-2002
Max power to external device	15 W (max 1.5 A) per port	15 W (max 1.5 A)	6W (max 0.5A) total 15 W (max 1.5 A) per port if externally powered
Max copper cable length	4.5 meter		

PCI-Express interface

interface	PCI-Express Base Specification 1.1
throughput	x1 link 2.5Gbps
OHCI compliant	yes, version 1.1
external power input	floppy power connector, +12V

general

Dimensions	80/104 x 55 x 27 mm (l x w x h)	80/104 x 55 x 27 mm (l x w x h)	PCB: 125 x 100 mm (l x w)
Supply voltage	5.5 V to 40 V	5.5V to 40V	3.1 to 3.5 (PCI Express bus)
Power consumption	1.4W typical	2.3W typical	2.4W typical
Power connector	4-pins subminiature round male connector Thomas & Betts: subminiature connector Triad '01'		
Operating temperature	0° C to 70° C optional: -40° C to 85° C	0° C to 70° C optional: -40° C to 85° C	0° C to 70° C



Options

Hardware modification

single mode transceivers
extended temperature range for
opticlink 1394B-800 and 1394B-2F800

(*) contact ARVOO about temperature limits and lead time

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i.LINK is a trademark of Sony Corporation
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