

KEY FEATURES

- ❖ Fully supports Base/Medium/Full/Deca configurations for Camera Link™ cameras/frame grabbers
- ❖ Provides 850 Mbytes/s effective image data bandwidth
- ❖ Direct plug – no electrical camera link cable needed
- ❖ Minimum only 2 fibers are required with two simplex LC fiber connectors
- ❖ Support PoCL function for powering cameras
- ❖ Single 5V~24V DC power supply
- ❖ Included international AC/DC adapters accepting 100~240V AC power
- ❖ Transmission distance up to 300m with OM3 multimode fiber and up to 80km with single mode fiber.
- ❖ Compact size – 59L x 39.4W x 17H mm (2.326L x 1.551W x 0.669H inch)

TARGET APPLICATIONS

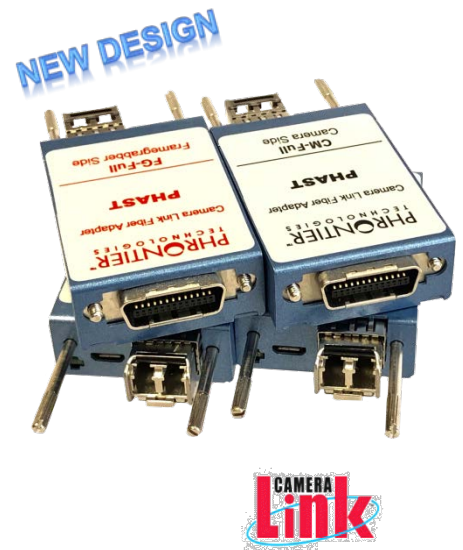
- ❖ Solar panel or glass panel inspection
- ❖ Semiconductor wafer inspection
- ❖ High speed printing inspection
- ❖ High precision surface inspection (e.g. airplane surface or automobile painting)
- ❖ Automated product inspection (e.g. food, drinking or pharmaceutical products)
- ❖ High resolution and real-time analysis for science, sports, automobile tests, and 3-D animation.
- ❖ High precision security surveillance (e.g. border control, airport)
- ❖ Traffic surveillance/control and vehicle license plate reading/recording (e.g. toll booth)
- ❖ Cameras placed in harsh environment (e.g. nuclear plant, steel mill or undersea monitoring)
- ❖ Other Machine Vision Applications

PHRONTIER™
TECHNOLOGIES

PHAST™
Camera Link
Fiber Adapter

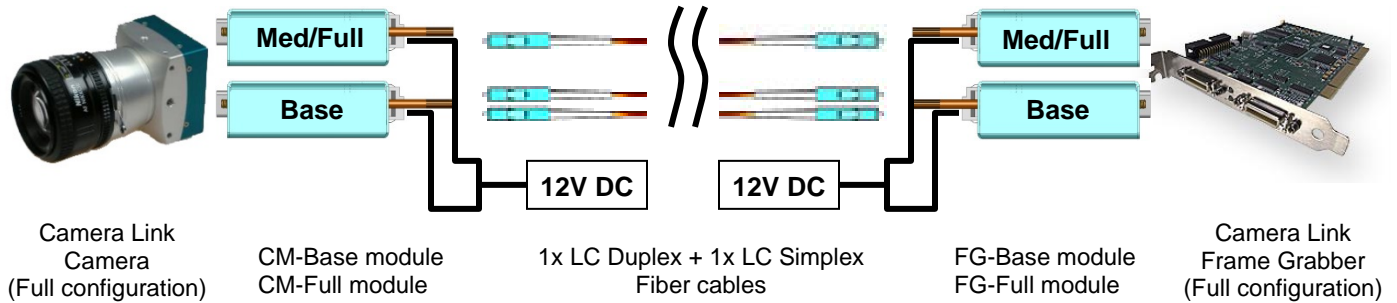
**Base/Medium/
Full/Deca
Configurations**

PHF-FI-M300
PHF-FI-Sxx
PHF-FI-Bxx
PHF-FI-C10-BxxFxx



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TYPICAL SET UP DIAGRAM



TECHNICAL SPECIFICATIONS

General Specification

| | | | | |
|---|---|-------------|----------|-------------|
| Standard Operating Temperature | Ambient | 0 ~ 50 °C | Case | 0 ~ 60 °C |
| Extended Operating Temperature ¹ | Ambient | -40 ~ 65 °C | Case | -40 ~ 75 °C |
| Storage Temperature | -40 ~ 85 °C | | | |
| Input Voltage | DC 5 ~ 24 V | | | |
| Typical Supply Current @12V DC ² | CM-base + CM-full | PHF-FI-M300 | 0.28 Amp | |
| | | PHF-FI-S10 | 0.34 Amp | |
| | FG-base + FG-full | PHF-FI-M300 | 0.35 Amp | |
| | | PHF-FI-S10 | 0.38 Amp | |
| Typical Power Consumption @12V DC ² | CM-base + CM-full | PHF-FI-M300 | 3.4W | |
| | | PHF-FI-S10 | 4.1W | |
| | FG-base + FG-full | PHF-FI-M300 | 4.2W | |
| | | PHF-FI-S10 | 4.6W | |
| Connector Type | Micro USB type B with custom pin assignment | | | |
| Approx. Weight per module | 75 gram | | | |

Note 1. For CWDM models, the extended ambient is only available for -20~55C due to the component limitation.

Note 2. Measured at room temperature.

Camera Link Interface

| | |
|--------------------------------|--|
| Pixel Clock Range | 20 ~ 85MHz |
| Supported Camera Configuration | Base, Medium, Full, 10taps x 8bits, 8taps x 10bits |

PHAST Series

| | | | |
|---------------------------|--------------|--------------|--|
| Effective Data Throughput | 850 Mbytes/s | | |
| Connector Type | MDR26 plug | | |
| Signal Latency | Image | 2.5 μ s | |
| | SerTFG | 1 μ s | |
| | CC1~4 | 0.32 μ s | |
| | SerTC | 0.26 μ s | |

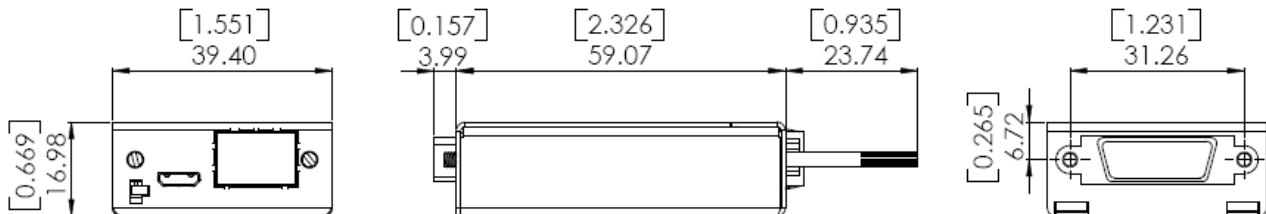
Optical Interface

| | PHF-FI-M300 | PHF-FI-S10 | PHF-FI-C10 ³ | PHF-FI-B10 |
|-----------------------------|------------------------------|----------------|-------------------------------|-------------------|
| Operating Wavelength | 850nm | 1310nm | 1270 ~ 1610 with 20nm spacing | 1270/1330/1310 nm |
| Average Tx Output Power | -5 to -1 dBm | -8 to +0.5 dBm | -5 to 0 dBm | -8 to +0.5 dBm |
| Min. Optical Rx Input Power | -11.1 dBm | -14.4 dBm | -15 dBm | -14.4 dBm |
| Max Optical Rx Input Power | 0 dBm | +0.5 dB | +0.5 dB | +0.5 dB |
| Total Fiber Counts | 3 | 3 | 3 | 2 |
| Connector Type | 1x LC duplex + 1x LC simplex | | | 2x LC simplex |
| Fiber Type | OM3 | SM | SM | SM |
| Estimated Link Distance | 300m | 10km | Setup dependent | 10km |

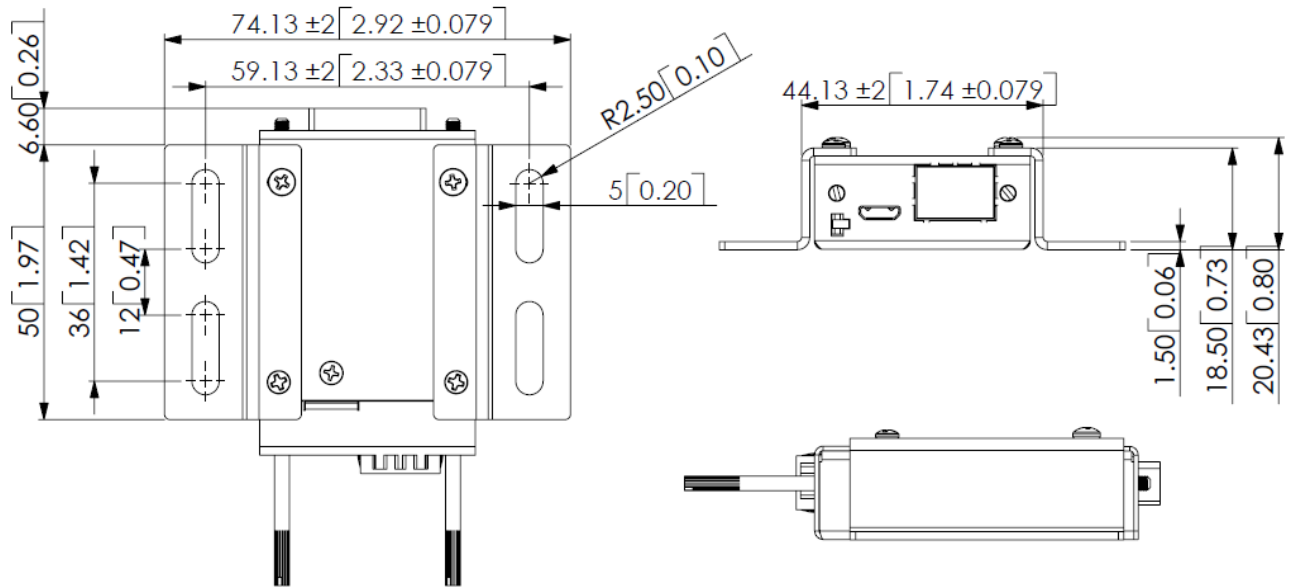
Note 3. More power options are available. Please see ordering information.

MECHANICAL INFORMATION (mm [inch])

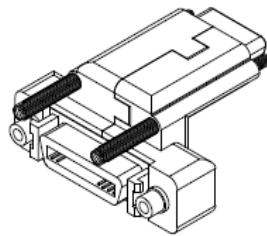
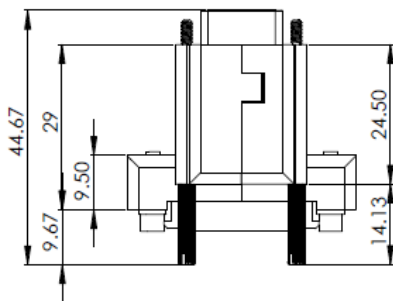
Module dimensions



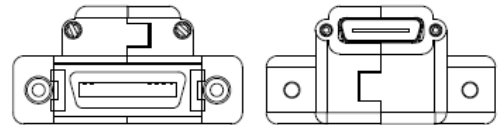
With Mounting Flange Options



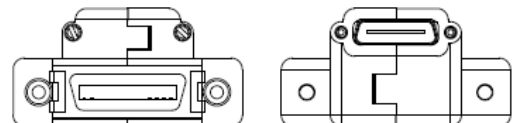
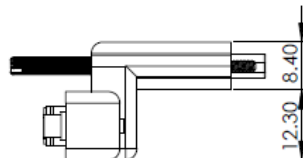
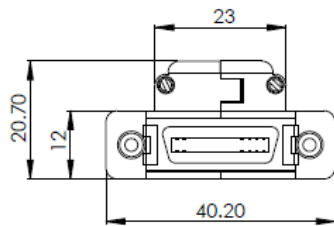
SDR plug to MDR receptacle adapter



Down angle configuration



Up angle configuration



ORDERING INFORMATION

Standard Models

| Model # | Estimated Link Distance | Fiber counts | Items Included |
|-------------|-------------------------|--------------|---|
| PHF-FI-M300 | 300m with OM3 fiber | 3 | 1x CM-Base (for camera Base port) 1x CM-Full (for camera Full port) |
| PHF-FI-S10 | 10km | 3 | 1x FG-Base (for grabber Base port) 1x FG-Full (for grabber Full port) |
| PHF-FI-B10 | 10km | 2 | 2x 12V DC output international wall mount AC/DC power adapters with cable assembly (Fiber cables are not included) |

Extended Temperature Models

| Model # | Estimated Link Distance | Fiber counts | Items Included |
|---------------|-------------------------|--------------|---|
| PHF-FI-M300-T | 300m with OM3 fiber | 3 | 1x CM-Base (for camera Base port) 1x CM-Full (for camera Full port) |
| PHF-FI-S10-T | 10km | 3 | 1x FG-Base (for grabber Base port) 1x FG-Full (for grabber Full port) |
| PHF-FI-B10-T | 10km | 2 | 2x 12V DC output international wall mount AC/DC power adapters with cable assembly (Fiber cables are not included) |

CWDM models (users need to specify wavelengths for CM and FG modules)

Each system requires different wavelengths. For example, using 1270, 1290 and 1310nm with 10dB power budget for a PHAST system will include PHF-FI-C10-B27F31-CM and PHF-FI-C10-B29F31-FG.

| Model # | Power Budget | Fiber counts | Optical Wavelengths | Items Provided |
|---|--------------|--------------|--|---|
| PHF-FI-C10-BxxFxx-CM and PHF-FI-C10-BxxFxx-FG | 10dB | 3 | xx=27 for 1270 nm xx=29 for 1290 nm xx=31 for 1310 nm xx=33 for 1330 nm xx=35 for 1350 nm xx=37 for 1370 nm xx=39 for 1390 nm xx=41 for 1410 nm | 1x CM-Base (for camera Base port) 1x CM-Full (for camera Full port) 1x FG-Base (for grabber Base port) 1x FG-Full (for grabber Full port) 2x 12V DC output international wall mount |

| | | | |
|---|-------------|--|---|
| <p>PHF-FI-C14-BxxFxx-CM and PHF-FI-C14-BxxFxx-FG</p> | <p>14dB</p> | <p>xx=43 for 1430 nm xx=45 for 1450 nm xx=47 for 1470 nm xx=49 for 1490 nm xx=51 for 1510 nm xx=53 for 1530 nm xx=55 for 1550 nm xx=57 for 1570 nm xx=59 for 1590 nm xx=61 for 1610 nm</p> | <p>AC/DC power adapters with cable assembly (Fiber cables are not included)</p> |
|---|-------------|--|---|

Accessory

| Part # | Description |
|-------------------|---|
| 618-MUSB-2 | Y-split power cable with Switchcraft TA3MLX |
| MUSB-2 | Y-split power cable with open wire pigtail |
| 618-TRG10R-TA3FX | 12V DC international wall mount AC/DC adapter with Switchcraft TA3FX |
| 618-TRG10R-MUSB-2 | 618-TRG10R-TA3FX + 618-MUSB-2 |
| LC-LC-S-D-xxxM | LC to LC duplex 9/125 μ m SM fiber. xx = desired length in meters. |
| LC-LC-M-D-xxxM | LC to LC duplex 50/125 μ m OM2 MM fiber. xx = desired length in meters. |
| LC-LC-G-D-xxxM | LC to LC duplex 50/125 μ m OM3 MM fiber. xx = desired length in meters. |
| PHIRE-W | 1 pair of mounting flanges |
| SDR-MDR-D | SDR plug to MDR receptacle adapter – DOWN configuration |
| SDR-MDR-U | SDR plug to MDR receptacle adapter – UP configuration |



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