

Fast Ethernet Copper-to-Fiber Converters



Illustrated: Standard and Single-Fiber Fast Ethernet Media Converters

Canary's Fast Ethernet converters connect twisted-pair and fiber optic segments to extend Fast Ethernet links. They are ideal for connecting user desktops with low-cost work-group switches and servers – or for switch-to-switch links. Canary's UTP-to-Fiber converters are used to economically distribute Fast Ethernet capacity to user desktops throughout the network. CFT-206X converters are the first in the industry to speedup Spanning Tree link recovery by employing Link Fault Signaling (LFS) technology while supporting Far-End Fault-Indication and Parallel Detection capabilities. Specially modified unidirectional (one-way fiber transmission) versions are available on special request for security applications – contact Canary directly for more information.

Installed success ... deployed worldwide.

CFT-206X
Standard UTP to Multi-mode & Single-mode series 100BASE-TX/FX

CFT-2067X
UTP to Single-Fiber, Bi-Directional Single-mode

CFT-20W-XX
UTP to Single-mode with ITU specified CWDM wavelengths

Economic distribution of Fast Ethernet capacity to user desktops throughout the network



Product Specifications

Power Supply:

- External switching
- 100/240 VAC, 1.2/0.6 Amp
- 50/60 Hz

Environmental:

- Operating Temp.: 0 to 49°C
- Storage Temp.: -10 to 66°C
- Relative Humidity: 5% to 95% non-condensing

Mechanical:

- Height: 1.00" (2.54 cm)
- Length: 5.75" (14.61 cm)
- Width: 2.85" (7.24 cm)
- Ship Weight: 2.0 lb (0.9 Kg)
- Single Unit: 0.4 lb (0.2 Kg)

Regulatory:

- Designed in compliance with CE, UL, CSA & TUV standards
- IEEE 802.3u, 100BASE-TX/FX
- Class 1 lasers conform to US 21CFR11, EN 60825-1, UL 1950 and IEC-825

Warranty

- Five (5) Years, parts and labor

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Fast Ethernet Copper-to-Fiber Converters

The pages that follow provide ordering information for Canary's Fast Ethernet Copper-to-Fiber Converter products:

- **Standard UTP to Multi-mode & Single-mode series 100BASE-TX/FX**
CFT-206X, CFT-206-5M
- **UTP to Single-Fiber, Bi-Directional Single-mode**
CFT-2067X
- **UTP to Single-mode with ITU specified CWDM wavelengths**
CFT-20W-XX



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Fast Ethernet Copper-to-Fiber Converters

CFT-206X – Standard multi-mode & single-mode series: 100BASE-TX to 100BASE-FX



Illustrated: Standard Fast Ethernet Copper-to-Fiber Converter

Standard CFT-206X multi-mode converters provide transmission distances of 2000 meters over 62.5/125 μm fiber.

Standard CFT-206X-SM single-mode models provide transmission distances ranging from 30 to 80 kilometers over 9.0 μm single-mode fiber.

- Switch for Hard-Setting Full-Duplex or 100BASE-TX Autonegotiation for 100 Mbs, Full and Half-duplex operation
- Internal Auto-sensing, MDI / MDI-X crossover switch for proper Network Interface Card or Switch connections
- Switch enabled Link Fault Signaling (LFS) – Forwards lost link awareness to each connected host
- A full array of diagnostic LEDs
- Auto-sensing, 100 / 240 VAC Power Supply
- Optional: UK, Continental European power
- Unidirectional fiber transmission versions available for sensitive security applications.
- Additional models include: Single-Fiber Bi-Directional single-mode and versions launching ITU specified CWDM transmitter wavelengths

Ordering Information

| Fast Ethernet Model Numbers | Media Types | Min. Tx PWR | Max. Tx PWR | Rx Sensitivity | Min. PWR Budget | Max.PWR Budget | Max. Input PWR | Connector Type | Wavelengths (ηm) | Transmit Distance |
|---|-------------|-------------|-------------|----------------|-----------------|----------------|----------------|----------------|--------------------------------|-------------------|
| CFT-2061 | UTP / MM | -20.0 dBm | -14.0 dBm | -31.0 dBm | 11.0 dB | 17.0 dB | -8.0 dBm | SC | 1310 ηm | 2000 m |
| CFT-2062 | UTP / MM | -20.0 dBm | -14.0 dBm | -31.0 dBm | 11.0 dB | 17.0 dB | -8.0 dBm | ST | 1310 ηm | 2000 m |
| <i>Specifications above in blue are for multi-mode, fiber connectors. Specifications below for single-mode, fiber connectors.</i> | | | | | | | | | | |
| CFT-2081-SM | UTP / SM | -16.0 dBm | -9.0 dBm | -34.0 dBm | 18.0 dB | 25.0 dB | -7.0 dBm | SC | 1310 ηm | 18 Km |
| CFT-2061-SM | UTP / SM | -15.0 dBm | -8.0 dBm | -34.0 dBm | 19.0 dB | 26.0 dB | -7.0 dBm | SC | 1310 ηm | 30 Km |
| CFT-2062-SM | UTP / SM | -15.0 dBm | -8.0 dBm | -34.0 dBm | 19.0 dB | 26.0 dB | -7.0 dBm | ST | 1310 ηm | 30 Km |
| CFT-2061-LSM | UTP / SM | -5.0 dBm | 0.0 dBm | -35.0 dBm | 30.0 dB | 35.0 dB | 0.0 dBm | SC | 1310 ηm | 50 Km |
| CFT-2061-XL | UTP / SM | -5.0 dBm | 0.0 dBm | -35.0 dBm | 30.0 dB | 35.0 dB | 0.0 dBm | SC | 1550 ηm | 80 Km |
| CFT-2061-E85 | UTP / SM | -5.0 dBm | 0.0 dBm | -35.0 dBm | 30.0 dB | 35.0 dB | 0.0 dBm | SC | 1550 ηm | 80 Km |

*NOTE 1: All CFT models are available as uni-Directional (D) versions, that allow one-way traffic e.g. CFT-2061D. For special order, contact Canary for information.

* NOTE 2: Most versions of CFT-20XX standalone converters are available as card modules for Canary's CCM-1600 and CCN-2000 / CCN-0400 Chassis models. Please refer to the CCM-1600 and CCN-2000 / CCN-0400 Data Sheets for more information.

More versions of the CFT-206X series may be found on the Canary web site as they become available.



Fast Ethernet Copper-to-Fiber Converters

CFT-2067A and CFT-2067B – UTP to Single-Fiber, Bi-Directional Single-Mode

Canary's Single-Fiber Bi-Directional Single-mode converters deliver long-range data access over single-mode segments while using a single strand of Fiber cable. CFT-2067A/B



Illustrated: Single Fiber Fast Ethernet Single-Fiber, Bi-Directional converter.

converters are designed to free-up fiber capacity by using dual wavelengths over a single strand of a duplex fiber pair. They are ideal for data intensive backbones in the enterprise or across the campus where extra fiber capacity is lacking but redundancy or additional access is needed to add channels or alternate protocols.

CFT-2067X converters are the first in the industry to speedup Spanning Tree link recovery by employing Link Fault Signaling (LFS) technology while supporting Far-End Fault-Indication and Parallel Detection capabilities.

Canary's Single-Fiber, Bi-Directional converters are functionally identical to standard units with the exception that units designated with an A (CFT-2067A) transmit at 1550 nm and receive on

- Switch for Hard-Setting Full-Duplex or 100BASE-T Autonegotiation for 100 Mbs, Full and Half-duplex operation
- Internal Auto-sensing, MDI / MDI-X crossover switch for proper Network Interface Card or Switch connections
- Switch enabled Link Fault Signaling (LFS) – Forwards lost link awareness to each connected host
- Optional: UK, Continental European power
- Auto-sensing, 100 / 240 VAC Power Supply
- A full array of diagnostic LEDs

1310 nm, while B (CFT-2067B) units transmit at 1310 nm and receive on 1550 nm. Single-Fiber converters must be connected as complementary A & B pairs. (A and B units must be ordered in pairs because every A unit must be connected to a B unit.) Similarly, standalone A & B units can be connected to complementary A & B modules used in the CCN-2000/0400 or CCM-1600 Chassis families. Canary Single-Fiber converters are available with 20 kilometer, 40 kilometer or 60 kilometer transmission ranges.

Ordering Information

| Fast Ethernet Model Numbers | Media Types | Optical Specifications | | | | | | | | |
|-----------------------------|-------------|------------------------|-------------|----------------|-----------------|-----------------|----------------|----------------|------------------|-------------------|
| | | Min. Tx PWR | Max. Tx PWR | Rx Sensitivity | Min. PWR Budget | Max. PWR Budget | Max. Input PWR | Connector Type | Wavelengths (nm) | Transmit Distance |
| CFT-2067SA | UTP / SM | -14.0 dBm | -8.0 dBm | -33.0 dBm | 19.0 dB | 25.0 dB | -3.0 dBm | SC | 1550/1310 nm | 20 Km |
| CFT-2067SB | UTP / SM | -14.0 dBm | -8.0 dBm | -33.0 dBm | 19.0 dB | 25.0 dB | -3.0 dBm | SC | 1310/1550 nm | 20 Km |
| CFT-2067E4A | UTP / SM | -8.0 dBm | -3.0 dBm | -33.0 dBm | 25.0 dB | 30.0 dB | -3.0 dBm | SC | 1550/1310 nm | 40 Km |
| CFT-2067E4B | UTP / SM | -8.0 dBm | -3.0 dBm | -33.0 dBm | 25.0 dB | 30.0 dB | -3.0 dBm | SC | 1310/1550 nm | 40 Km |
| CFT-2067E6A | UTP / SM | -5.0 dBm | 0.0 dBm | -33.0 dBm | 28.0 dB | 33.0 dB | -3.0 dBm | SC | 1550/1310 nm | 60 Km |
| CFT-2067E6B | UTP / SM | -5.0 dBm | 0.0 dBm | -33.0 dBm | 28.0 dB | 33.0 dB | -3.0 dBm | SC | 1310/1550 nm | 60 Km |

* NOTE: CFT-2067SA/B and CFT-2067EXA/B standalone converters are available as card modules for Canary's CCM-1600 and CCN-2000 / CCN-0400 Chassis models. Please refer to the CCM-1600 and CCN-2000 / CCN-0400 Data Sheets for more information.

More versions of the CFT-2067A/B series may be found on the Canary web site as they become available.



Fast Ethernet Copper-to-Fiber Converters

CFT-20W-XX – UTP to Single-mode with ITU-specified CWDM wavelengths

Canary's CFT-20W-XX series of Coarse Wavelength Division Multiplexing (CWDM) converters provide an efficient way to launch multiple Fast Ethernet channels for transport through CWDM Multiplexers and provide access to high capacity CWDM based networks.

Coarse Wavelength Division Multiplexing reduces network congestion with a minimum infrastructure investment. Using discrete wavelengths (one per channel), multiple data channels can be transported in parallel over a single-mode fiber cable.

CFT-20W-XX converters are the first in the industry to speedup Spanning Tree link recovery by employing Link Fault Signaling (LFS) technology while supporting Far-End Fault-Indication and Parallel Detection capabilities.

Canary's CFT-20W-XX Coarse Wavelength Division Multiplexing converters are designed to meet industry needs for an economical way to access CWDM point-to-point campus and metro-ring networks. They are used with Main Distribution Frame (central office) Multiplexers and with remote site Optical Add/Drop Multiplexers (OADMs) to insert and/or recover optical traffic from single-mode fiber segments. Specific models provide transmission on one of eight λ s, each an ITU specified, CWDM wavelength. Standard versions support 80 Kilometer transmission distances.

- Switch for Hard-Setting Full-Duplex or 100BASE-T Autonegotiation for 100 Mbs, Full and Half-duplex operation
- Internal Auto-sensing, MDI / MDI-X crossover switch for proper Network Interface Card or Switch connections
- Switch enabled Link Fault Signaling (LFS) – Forwards lost link awareness to each connected host
- Optional: UK, Continental European power
- Auto-sensing, 100 / 240 VAC Power Supply
- A full array of diagnostic LEDs

CWDM converters are functionally identical to standard units with the exception that units at opposite ends of a fiber link must be models with identical wavelengths in order to maintain a common channel link e.g. if one device is operating at 1470 nm, the second must transmit and receive on the same CWDM wavelength. Similarly, a standalone 1470 nm unit can be connected to a CCM-1600 or CCN-2000 / CCN-0400 chassis module with the same wavelength.

Ordering Information

| Fast Ethernet Model Numbers | Media Types | Optical Specifications | | | | | | | | |
|-----------------------------|-------------|------------------------|-------------|----------------|-----------------|----------------|----------------|----------------|------------------|-------------------|
| | | Min. Tx PWR | Max. Tx PWR | Rx Sensitivity | Min. PWR Budget | Max.PWR Budget | Max. Input PWR | Connector Type | Wavelengths (nm) | Transmit Distance |
| CFT-20W-XXE8 | UTP / SM | -5.0 dBm | 0.0 dBm | -34.0 dBm | 29.0 dB | 34.0 dB | -3.0 dBm | SC | CWDM | 80 Km |
| CFT-20W-XXE9 | UTP / SM | -3.0 dBm | 2.0 dBm | -34.0 dBm | 31.0 dB | 36.0 dB | -3.0 dBm | SC | CWDM | 100 Km |

* NOTE 1: W-XX designates one of eight CWDM optical transmission wavelengths (λ) e.g. CFT-20W-47=1470nm or CFT-20W-61=1610nm transmission. Please refer to other CWDM (Coarse Wavelength Division Multiplexing) Data Sheets for additional information.

* NOTE 2: Canary CWDM standalone converters are available as card modules for the CCM-1600 and SNMP manageable CCN-2000 / CCN-0400 Chassis models. Please refer to the CCM-1600 and CCN-2000 / CCN-0400 Data Sheets for more information.

Please refer to the Standalone / Rackable CWDM data pages for information on Passive Optical Multiplexer / De-Multiplexers and OADMs.

There are eighteen CWDM wavelengths (λ s) specified. Eight standard wavelengths plus four O-band λ s are usable over most standard single-mode fiber.

Canary offers products for the standard eight wavelengths plus four O-band λ s: 1470, 1490, 1510, 1530, 1550, 1570, 1590, 1610 nm + 1290, 1310, 1330, 1350 nm

More versions of the CFT-20W-XX series may be found on the Canary web site as they become available.

