

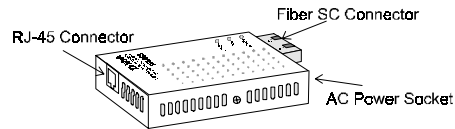
This guide provides basic information on the installation and use of D-Link converter model DFE-855.

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## Introduction

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The D-Link DFE-855 100BASE-TX to Fiber Optic 100BASE-FX Converter represents the best value on the market. The converter is IEEE 802.3u 100BASE-TX and 100BASE-FX compliant, mediates between a 100BASE-TX segment and a 100BASE-FX segment, and supports both full-duplex and half-duplex operation. The DFE-855 converter supports transmission distances of up to 2 kilometers in full-duplex mode (please refer to the section entitled Connections and Communication Mode). Diagnostic LEDs on the DFE-855 provide indication of power, linkage and data reception.



DFE-855 100BASE-TX to Fiber Optic 100BASE-FX Converter

## Network Cables Supported

The connectors and network cables supported by the converter are listed in the following table:

| Connector | Type of Network | Network Cable Supported |
|-----------|-----------------|-------------------------|
| RJ-45     | 100BASE-TX      | Cat 5 Twisted-Pair      |

|          |            |  |
|----------|------------|--|
| Fiber SC | 100BASE-FX | 1300nm<br>62.5/125, 50/125-um<br>Multimode fiber |
|----------|------------|--|

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## Features

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### ***DFE-855 100BASE-TX to Fiber Optic 100BASE-FX Converter***

- Conforms to the IEEE 802.3u 100BASE-TX and 100BASE-FX standards.
- 100Mbps data transfer rate.
- Supports transmission distances of up to 2 km (full-duplex).
- One fiber optic SC connector and one RJ-45 connector. (Refer to Appendix C: RJ-45 Pin Specifications.)
- LED indicators allow for visual verification of power, linkage and data received.
- Operating temperature: 0 to 55 degrees Celsius.
- Storage Temperature: -25 to 55 degrees Celsius.
- Humidity: 5%- 90% (non-condensing)
- EMI Certification: CE, FCC A, VCCI A and C-Tick.

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## LED Indicators

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The DFE-855 converter features the following LED indicators:

1. TX Link/Rx Indicator (green)  
Steady green indicates that a valid link exists.  
Flashing green indicates that the converter is receiving data from the RJ-45 connector.
2. PWR Indicator (green)  
Lights when power is on.
3. FX Link/Rx Indicator (green)  
Steady green indicates that a valid link exists.  
Flashing green indicates that the converter is receiving data from the Fiber Optic connector.

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## Unpack and Inspect

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Open the shipping carton and carefully remove all items. In addition to this User's Guide, ascertain that you have:

- One DFE-855 Converter
- One DC power adapter (The specifications for this adapter appear in Appendix A)
- AC Power Cord

In the event that you find any mismatched, damaged or missing item, promptly contact your dealer for replacement.

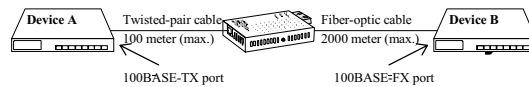
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## Connections and Communication Mode

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The figure below shows the basic connection scheme for the DFE-855.

A network device (a server, workstation, router, switch) with a 100BASE-TX port is connected to the DFE-855's RJ-45 jack through a twisted-pair cable; a device with a 100BASE-FX port is connected to the DFE-855's SC jack through a fiber-optic cable; and the supplied AC power adapter is connected to the DFE-855's DC power jack. The figure shows the maximum possible distance between the two devices: 2,100 meters. Note that the network ports on both devices must be explicitly set to full-duplex mode to allow the use of a cable of up to 2,000 meters long on the 100BASE-FX side.



### Important Note:

If device A's 100BASE-TX port has NWay capability but cannot be explicitly set to use full-duplex communication, the connection between device A and device B will operate in half-duplex mode. Half-duplex mode allows a maximum transmission distance of 360

meters. See Appendix B or consult a networking technician for full details.

## **Appendices:**

### **Appendix A**

Adapter provided by D-Link

- Input AC 100V ~ 240V  
0.12A
- Output 50~60Hz,  
DC 5V 1A
- Connector Center positive, outside negative

## Appendix B

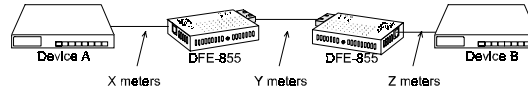
### Communication Mode and Transmission Distance

In the following figure, device B has a fiber optic port.



| Mode        | Device A        | Device B | X                                 | Y                   |
|-------------|-----------------|----------|-----------------------------------|---------------------|
| Full-duplex | DTE(*)          | DTE      | 100m                              | 2000m               |
| Half-duplex | DTE             | DTE      | $X \leq 100m, X + Y \approx 300m$ |                     |
| Half-duplex | Class I Hub(+)  | DTE      |                                   | $X + Y \approx 75m$ |
| Half-duplex | Class II Hub(+) | DTE      | $X \leq 100m, X + Y \approx 118m$ |                     |

In the following figure, device B does not have a fiber optic port.



| Mode        | Device A | Device B | X  | Y     | Z    |
|-------------|----------|----------|--|-------|------|
| Full-duplex | DTE(*)   | DTE      | 100m   | 2000m | 100m |
| Half-duplex | DTE      | DTE      | $X \leq 100m, X + Y + Z \approx 230m, Z \leq 100m$ |       |      |

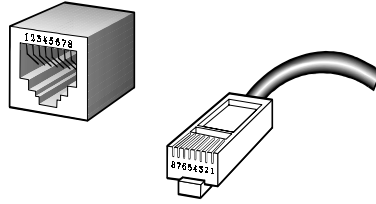
**Note:**

- \* DTE (Data Terminal Equipment): Workstation, switch, router, or terminal device.
- + The distance from device A to DFE-855 will change with the different distance between device A and other devices. Assuming the distance between device A to other devices is 100 meters long, please refer to the above table. The maximum distance given above assume that if device A is a 100BASE-TX hub, twisted-pair cable from it to devices other than the DFE-855 is 100 meters long.

## **Appendix C**

### *RJ-45 Pin Specifications.*

The following diagram and table show the standard RJ-45 connector and their pin assignments.

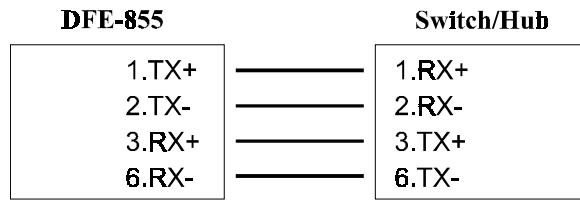


**The standard RJ-45 connector**

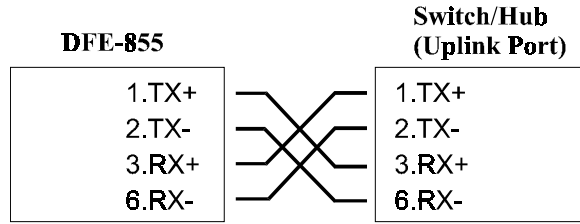
| <b>RJ-45 Connector pin assignment</b> |                                      |
|---------------------------------------|--------------------------------------|
| <b>Contact</b>                        | <b>Media Direct Interface Signal</b> |
| 1                                     | TX + (transmit)                      |
| 2                                     | TX - (transmit)                      |
| 3                                     | RX + (receive)                       |
| 4                                     | Not used                             |
| 5                                     | Not used                             |
| 6                                     | RX - (receive)                       |
| 7                                     | Not used                             |
| 8                                     | Not used                             |



Pinout descriptions for straight-through and crossover cables are shown in the following figures.



**Straight-Through Cable Pinouts**



**Crossover Cable Pinouts**

# D-Link® Offices

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|                  |   |
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| <b>U.K.</b>      | <b>D-LINK (EUROPE) LTD.</b><br>D-Link House, 6 Garland Road, Stanmore, London HA7 1DP<br>TEL: 44-181-235-5555 FAX: 44-181-235-5500  |
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 Date of purchase (Month/Day/Year): \_\_\_\_\_

| Product Model | Product Serial No. | * Product installed in type of computer (e.g., Compaq 486) | * Product installed in computer serial No. |
|---------------|--------------------|--|--|
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|               |                    |  |  |

(\* Applies to adapters only)  
 Product was purchased from:  
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2. **How many employees work at installation site?**  
 1 employee  2-9  10-49  50-99  100-499  500-999  1000+
3. **What network medium/media does your organization use ?**  
 Fiber-optics  Thick coax Ethernet  Thin coax Ethernet  
 10BASE-T UTP/STP  100BASE-TX  100BASE-T4  100VGAnyLAN  
 Others \_\_\_\_\_
4. **What category best describes your company?**  
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5. **Would you recommend your D-Link product to a friend?**  
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6. **Your comments on this product?**  
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