

# NPort 5600シリーズ

## 8/16ポートRS-232/422/485ラックマウントシリアルデバイスサーバー

### 機能と特長

- 標準19インチラックマウントサイズ
- LCDパネルによる簡単なIPアドレス設定（広温度モデルを除く）
- Telnet、Webブラウザ、Windowsユーティリティにより設定
- ソケットモード：TCPサーバー、TCPクライアント、UDP
- ネットワーク管理のためのSNMP MIB-II
- ユニバーサル高電圧範囲：100～240 VDCまたは88～300 VDC
- 一般的な低電圧範囲：±48 VDC（20～72 VDC、-20～-72 VDC）



### 認証



### 製品紹介

NPort® 5600ラックマウントシリーズでは、既存のシリアル機器への投資を保護すると同時に、シリアルデバイスの管理を一元化し、管理ホストをネットワーク上に分散させることで、将来的なネットワーク拡張への対応も可能になります。

#### 最大16のシリアルデバイスをネットワーク対応

NPort® 5600では、基本的な設定のみでイーサネットネットワークに最大16台のシリアルデバイスを接続することができます。

#### 19インチラックマウントデバイスサーバー

NPort® 5600デバイスサーバーには、フロントパネルにシリアルポート用のTx/Rx LED、リアパネルに8個または16個のRJ45シリアルポートコネクタが付属しています。このため、NPort® 5600デバイスサーバーは標準19インチラックマウントに適しています。これにより、操作、メンテナンス、管理のタスクを簡素化できます。

#### Real COM/TTYポート

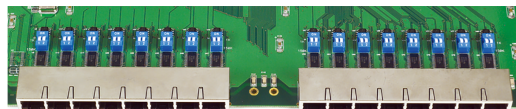
Real COM/TTYドライバーが用意されています。これにより、NPort® 5600のシリアルポートはWindowsではReal COMポートとして、LinuxではReal TTYポートとして認識されます。また、基本的なデータ送受信をサポートするだけでなく、NPort®ドライバーはRTS、CTS、DTR、DSR、およびDCD制御信号もサポートします。

#### メンテナンス作業を簡単に行うためのLEDインジケータ

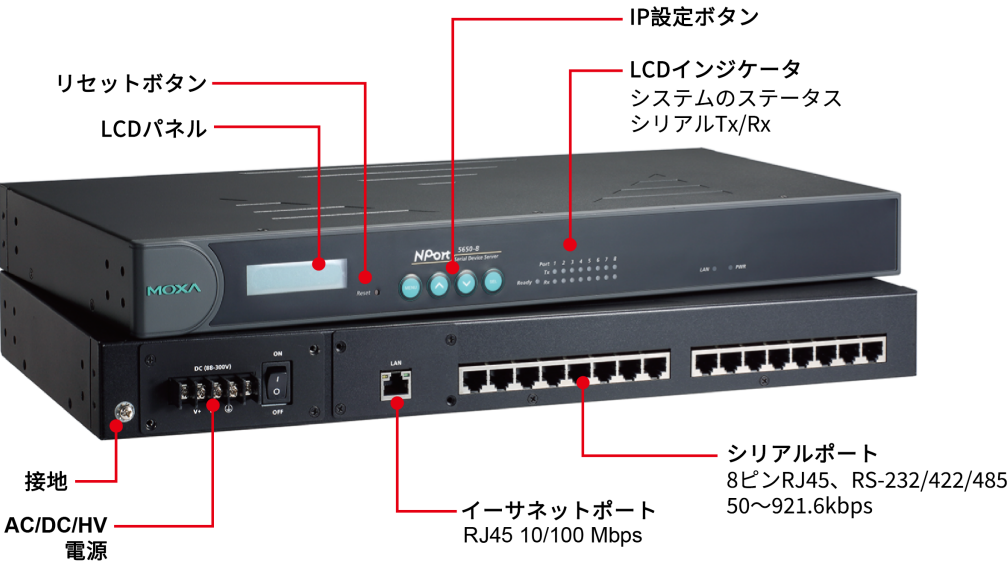
システムLED、シリアルTx/Rx LED、イーサネットLED（RJ45コネクタにあります）は、基本的なメンテナンス作業を行う上で素晴らしいツールとなっており、エンジニアはこれらを利用して現場で問題を分析することができます。LEDは、現在のシステムとネットワークのステータスを示すだけでなく、フィールドエンジニアが接続されているシリアルデバイスのステータスの監視も支援します。

#### 調整可能な終端とプルアップ/ダウン抵抗

シリアル信号の反射を防止するために、終端抵抗を使用する場合、プルアップ/ダウン抵抗を適切に設定し、電気信号が破損しないようにすることは重要です。全環境と汎用の互換性のある抵抗値のセットがないため、終端とプルアップ/ダウン抵抗値を設定するために、NPort® 5650-8/16は下部パネルにDIPスイッチを用意しています。



外観



注：LCDパネルと設定ボタンは広温度モデルでは使用できません

仕様

| Ethernet Interface                    |  |                                                                                                                                                                                                                                                                                                        |                         |              |              |              |
|---------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------------|--------------|--------------|
| 10/100BaseT(X) Ports (RJ45 connector) |  | 1                                                                                                                                                                                                                                                                                                      |                         |              |              |              |
| Magnetic Isolation Protection         |  | 1.5 kV (built-in)                                                                                                                                                                                                                                                                                      |                         |              |              |              |
| Optical Fiber                         |  |                                                                                                                                                                                                                                                                                                        |                         | 100BaseFX    |              |              |
|                                       |  |                                                                                                                                                                                                                                                                                                        |                         | Multi-Mode   |              | Single-Mode  |
|                                       |  | Fiber Cable Type                                                                                                                                                                                                                                                                                       |                         | OM1          | 50/125 μm    | G.652        |
|                                       |  |                                                                                                                                                                                                                                                                                                        |                         |              | 800 MHz x km |              |
|                                       |  | Typical Distance                                                                                                                                                                                                                                                                                       |                         | 4 km         | 5 km         | 40 km        |
|                                       |  | Wavelength                                                                                                                                                                                                                                                                                             | Typical (nm)            | 1300         |              | 1310         |
|                                       |  |                                                                                                                                                                                                                                                                                                        | TX Range (nm)           | 1260 to 1360 |              | 1280 to 1340 |
|                                       |  |                                                                                                                                                                                                                                                                                                        | RX Range (nm)           | 1100 to 1600 |              | 1100 to 1600 |
|                                       |  | Optical Power                                                                                                                                                                                                                                                                                          | TX Range (dBm)          | -10 to -20   |              | 0 to -5      |
|                                       |  |                                                                                                                                                                                                                                                                                                        | RX Range (dBm)          | -3 to -32    |              | -3 to -34    |
|                                       |  |                                                                                                                                                                                                                                                                                                        | Link Budget (dB)        | 12           |              | 29           |
|                                       |  |                                                                                                                                                                                                                                                                                                        | Dispersion Penalty (dB) | 3            |              | 1            |
|                                       |  | Note: When connecting a single-mode fiber transceiver, we recommend using an attenuator to prevent damage caused by excessive optical power.<br>Note: Compute the “typical distance” of a specific fiber transceiver as follows:<br>Link budget (dB) > dispersion penalty (dB) + total link loss (dB). |                         |              |              |              |

| Ethernet Software Features |                                                               |
|----------------------------|---------------------------------------------------------------|
| Configuration Options      | Telnet Console<br>Web Console (HTTP/HTTPS)<br>Windows Utility |
| Management                 | ARP<br>BOOTP<br>DHCP Client<br>DNS                            |

|                             |                                                                                                                                                             |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             | HTTP<br>HTTPS<br>ICMP<br>IPv4<br>LLDP<br>RFC2217<br>Rtelnet<br>PPP<br>SLIP<br>SMTP<br>SNMPv1/v2c<br>TCP/IP<br>Telnet<br>UDP                                 |
| Filter                      | IGMP v1/v2c                                                                                                                                                 |
| Windows Real COM Drivers    | Windows 11/10/8.1/8/7/Vista/XP/ME/98/95<br>Windows Server 2022/2019/2016/2012 R2/2012/2008 R2/2008/2003<br>Windows Embedded CE 6.0/5.0, Windows XP Embedded |
| Linux Real TTY Drivers      | Kernel versions 6.x, 5.x, 4.x, 3.x, 2.6.x, and 2.4.x                                                                                                        |
| Fixed TTY Drivers           | macOS Versions: 11.x, 10.12 to 10.15                                                                                                                        |
| Arm®-based Platform Support | Linux Kernel 5.x/4.x                                                                                                                                        |
| Virtual Machine             | VMWare ESXi (Windows 11/10)<br>VMware Fusion (Windows on macOS 10.12 to 11.x)<br>Parallels Desktop (Windows on macOS 10.12 to 11.x)                         |
| Android API                 | Android 3.1.x and later                                                                                                                                     |
| Time Management             | SNTP                                                                                                                                                        |

## Security Functions

|                    |                                                  |
|--------------------|--------------------------------------------------|
| Authentication     | Local database                                   |
| Encryption         | HTTPS<br>AES-128<br>RSA-1024<br>SHA-1<br>SHA-256 |
| Security Protocols | HTTPS (TLS 1.2)<br>SNMPv3                        |

## Serial Interface

|                  |                                                                                                                                                                  |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connector        | 8-pin RJ45                                                                                                                                                       |
| No. of Ports     | 8 or 16 ports                                                                                                                                                    |
| Serial Standards | NPort 5610 Models: RS-232<br>NPort 5630 Models: RS-422, RS-485<br>NPort 5650 Models: RS-232, RS-422, RS-485                                                      |
| Operation Modes  | Disabled<br>Ethernet Modem<br>Pair Connection<br>Real COM<br>Reverse Telnet<br>RFC2217<br>TCP Client<br>TCP Server<br>UDP                                        |
| Baudrate         | Supports standard baudrates (unit=bps): 50, 75, 110, 134, 150, 300, 600, 1200, 1800, 2400, 4800, 7200, 9600, 19200, 38400, 57600, 115200, 230.4k, 460.8k, 921.6k |

|                                   |                                                                    |
|-----------------------------------|--------------------------------------------------------------------|
| Data Bits                         | 5, 6, 7, 8                                                         |
| Stop Bits                         | 1, 1.5, 2                                                          |
| Parity                            | None, Even, Odd, Space, Mark                                       |
| Flow Control                      | None<br>RTS/CTS (RS-232 only)<br>DTR/DSR (RS-232 only)<br>XON/XOFF |
| Pull High/Low Resistor for RS-485 | 1 kilo-ohm, 150 kilo-ohms                                          |
| Terminator for RS-485             | 120 ohms                                                           |
| RS-485 Data Direction Control     | Automatic Data Direction Control (ADDC)                            |

## Serial Signals

|           |                                        |
|-----------|----------------------------------------|
| RS-232    | TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND |
| RS-422    | Tx+, Tx-, Rx+, Rx-, GND                |
| RS-485-4w | Tx+, Tx-, Rx+, Rx-, GND                |
| RS-485-2w | Data+, Data-, GND                      |

## Power Parameters

|               |                                                                                                                                                                                                                                                                                                              |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input Current | NPort 5610-8-48V/16-48V: 135 mA @ 48 VDC<br>NPort 5650-8-HV-T/16-HV-T: 152 mA @ 88 VDC<br>NPort 5610-8/16: 141 mA @ 100 VAC<br>NPort 5630-8/16: 152 mA @ 100 VAC<br>NPort 5650-8/8-T/16/16-T: 158 mA @ 100 VAC<br>NPort 5650-8-M-SC/16-M-SC: 174 mA @ 100 VAC<br>NPort 5650-8-S-SC/16-S-SC: 164 mA @ 100 VAC |
| Input Voltage | HV Models: 88 to 300 VDC<br>AC Models: 100 to 240 VAC, 47 to 63 Hz<br>DC Models: $\pm 48$ VDC, 20 to 72 VDC, -20 to -72 VDC                                                                                                                                                                                  |

## Reliability

|                          |              |
|--------------------------|--------------|
| Automatic Reboot Trigger | Built-in WDT |
|--------------------------|--------------|

## Physical Characteristics

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Housing                   | Metal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Installation              | 19-inch rack mounting                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Dimensions (with ears)    | 480 x 45 x 198 mm (18.90 x 1.77 x 7.80 in)                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Dimensions (without ears) | 440 x 45 x 198 mm (17.32 x 1.77 x 7.80 in)                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Weight                    | NPort 5650-16-HV-T: 3,820 g (8.42 lb)<br>NPort 5650-8-HV-T: 3,720 g (8.20 lb)<br>NPort 5610-16-48V: 3,260 g (7.19 lb)<br>NPort 5610-8-48V: 3,160 g (6.97 lb)<br>NPort 5630-16: 2,560 g (5.64 lb)<br>NPort 5630-8/5650-16/5650-16-T: 2,510 g (5.53 lb)<br>NPort 5650-16-S-SC: 2,500 g (5.51 lb)<br>NPort 5610-16: 2,490 g (5.49 lb)<br>NPort 5650-8-S-SC/5650-16-M-SC: 2,440 g (5.38 lb)<br>NPort 5610-8: 2,290 g (5.05 lb)<br>NPort 5650-8-M-SC: 2,380 g (5.25 lb)<br>NPort 5650-8/5650-8-T: 2,310 g (5.09 lb) |
| Interactive Interface     | LCD panel display (standard temp. models only)<br>Push buttons for configuration (standard temp. models only)                                                                                                                                                                                                                                                                                                                                                                                                  |

## Environmental Limits

|                                        |                                                                                                                                                           |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating Temperature                  | Standard Models: 0 to 60°C (32 to 140°F)<br>Wide Temp. Models: -40 to 75°C (-40 to 167°F)<br>High-voltage Wide Temp. Models: -40 to 85°C (-40 to 185°F)   |
| Storage Temperature (package included) | Standard Models: -20 to 70°C (-4 to 158°F)<br>Wide Temp. Models: -40 to 75°C (-40 to 167°F)<br>High-voltage Wide Temp. Models: -40 to 85°C (-40 to 185°F) |
| Ambient Relative Humidity              | 5 to 95% (non-condensing)                                                                                                                                 |

## Standards and Certifications

|         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EMC     | EN 55032/35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| EMI     | CISPR 32, FCC Part 15B Class A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| EMS     | NPort 5650-8/16 Models:<br>IEC 61000-4-2 ESD: Contact: 8 kV; Air: 15 kV<br>IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m<br>IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV<br>IEC 61000-4-5 Surge: Power: 2.5 kV; Signal: 1 kV<br>IEC 61000-4-6 CS: 150 kHz to 80 MHz: 3 V/m; Signal: 3 V/m<br>IEC 61000-4-8<br>IEC 61000-4-11<br><br>NPort 5650-8/16-HV Models:<br>IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV<br>IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m<br>IEC 61000-4-4 EFT: Power: 4 kV; Signal: 2 kV<br>IEC 61000-4-5 Surge: Power: 2 kV<br>IEC 61000-4-6 CS: 150 kHz to 80 MHz: 3 V/m; Signal: 3 V/m<br>IEC 61000-4-8 |
| Safety  | UL 62368-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Medical | EN 55011: 2007+A2: 2007 Class A (Group 1) compliant<br>EN 60601-1-2: 2007 compliant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

## MTBF

|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Time      | NPort 5610-8: 903,009 hrs<br>NPort 5610-8-48V: 892,692 hrs<br>NPort 5630-8: 844,009 hrs<br>NPort 5650-8-T: 776,469 hrs<br>NPort 5650-8: 754,927 hrs<br>NPort 5650-8-M-SC/8-S-SC: 738,291 hrs<br>NPort 5650-8-HV-T: 716,168 hrs<br>NPort 5610-16-48V: 693,529 hrs<br>NPort 5610-16: 680,154 hrs<br>NPort 5630-16: 618,263 hrs<br>NPort 5650-16: 525,107 hrs<br>NPort 5650-16-T: 533,046 hrs<br>NPort 5650-16-M-SC/16-S-SC: 517,019 hrs<br>NPort 5650-16-HV-T: 506,093 hrs |
| Standards | HV Models: Telcordia (Bellcore) Standard TR/SR<br>All Other Models: MIL-HDBK-217F                                                                                                                                                                                                                                                                                                                                                                                        |

## Warranty

|                 |                                                                            |
|-----------------|----------------------------------------------------------------------------|
| Warranty Period | 5 years                                                                    |
| Details         | See <a href="http://www.moxa.com/jp/warranty">www.moxa.com/jp/warranty</a> |

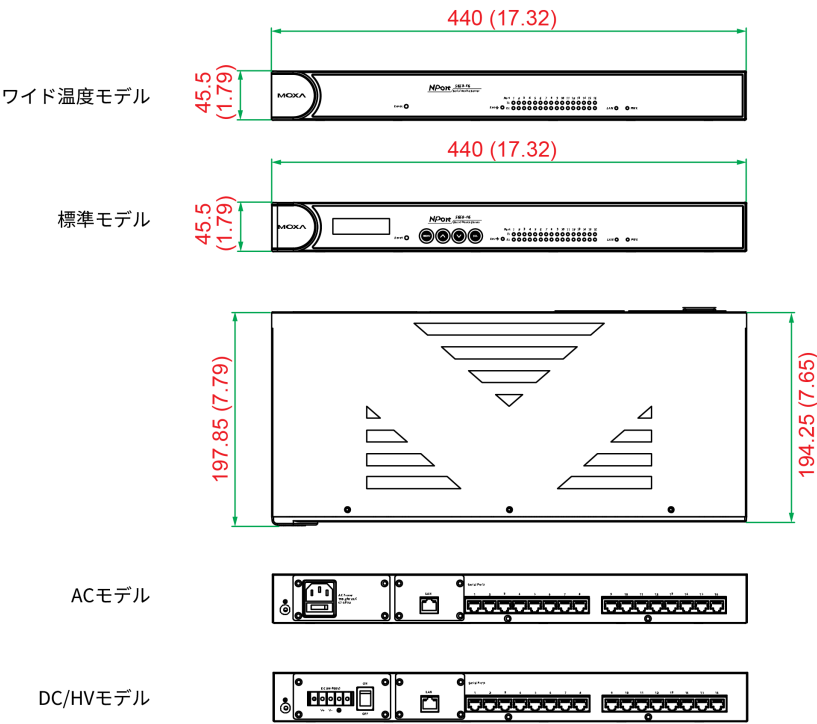
## Package Contents

|                  |                                     |
|------------------|-------------------------------------|
| Device           | 1 x NPort 5600 Series device server |
| Installation Kit | 1 x rack-mounting kit               |

|               |                                                      |
|---------------|------------------------------------------------------|
| Cable         | 1 x power cord, suitable for your region (AC models) |
| Documentation | 1 x quick installation guide<br>1 x warranty card    |

## 寸法

単位: mm (インチ)



## 注文情報

| Model Name         | Ethernet Interface Connector | Serial Interface | No. of Serial Ports | Operating Temp. | Input Voltage |
|--------------------|------------------------------|------------------|---------------------|-----------------|---------------|
| NPort 5610-8       | 8-pin RJ45                   | RS-232           | 8                   | 0 to 60°C       | 100-240 VAC   |
| NPort 5610-8-48V   | 8-pin RJ45                   | RS-232           | 8                   | 0 to 60°C       | ±48 VDC       |
| NPort 5630-8       | 8-pin RJ45                   | RS-422/485       | 8                   | 0 to 60°C       | 100-240 VAC   |
| NPort 5610-16      | 8-pin RJ45                   | RS-232           | 16                  | 0 to 60°C       | 100-240 VAC   |
| NPort 5610-16-48V  | 8-pin RJ45                   | RS-232           | 16                  | 0 to 60°C       | ±48 VDC       |
| NPort 5630-16      | 8-pin RJ45                   | RS-422/485       | 16                  | 0 to 60°C       | 100-240 VAC   |
| NPort 5650-8       | 8-pin RJ45                   | RS-232/422/485   | 8                   | 0 to 60°C       | 100-240 VAC   |
| NPort 5650-8-M-SC  | Multi-mode fiber SC          | RS-232/422/485   | 8                   | 0 to 60°C       | 100-240 VAC   |
| NPort 5650-8-S-SC  | Single-mode fiber SC         | RS-232/422/485   | 8                   | 0 to 60°C       | 100-240 VAC   |
| NPort 5650-8-T     | 8-pin RJ45                   | RS-232/422/485   | 8                   | -40 to 75°C     | 100-240 VAC   |
| NPort 5650-8-HV-T  | 8-pin RJ45                   | RS-232/422/485   | 8                   | -40 to 85°C     | 88-300 VDC    |
| NPort 5650-16      | 8-pin RJ45                   | RS-232/422/485   | 16                  | 0 to 60°C       | 100-240 VAC   |
| NPort 5650-16-M-SC | Multi-mode fiber SC          | RS-232/422/485   | 16                  | 0 to 60°C       | 100-240 VAC   |
| NPort 5650-16-S-SC | Single-mode fiber SC         | RS-232/422/485   | 16                  | 0 to 60°C       | 100-240 VAC   |

| Model Name         | Ethernet Interface Connector | Serial Interface | No. of Serial Ports | Operating Temp. | Input Voltage |
|--------------------|------------------------------|------------------|---------------------|-----------------|---------------|
| NPort 5650-16-T    | 8-pin RJ45                   | RS-232/422/485   | 16                  | -40 to 75°C     | 100-240 VAC   |
| NPort 5650-16-HV-T | 8-pin RJ45                   | RS-232/422/485   | 16                  | -40 to 85°C     | 88-300 VDC    |

アクセサリ（別売）

Cables

|                  |                                                             |
|------------------|-------------------------------------------------------------|
| CBL-RJ45F25-150  | 8-pin RJ45 to DB25 female serial cable, 1.5 m               |
| CBL-RJ45F9-150   | 8-pin RJ45 to DB9 female serial cable, 1.5m                 |
| CBL-RJ45M9-150   | 8-pin RJ45 to DB9 male serial cable, 1.5m                   |
| CBL-RJ45SF9-150  | 8-pin RJ45 to DB9 female serial cable with shielding, 1.5m  |
| CBL-RJ45SF25-150 | 8-pin RJ45 to DB25 female serial cable with shielding, 1.5m |
| CBL-RJ45SM25-150 | 8-pin RJ45 to DB25 male serial cable with shielding, 1.5m   |
| CBL-RJ45SM9-150  | 8-pin RJ45 to DB9 male serial cable with shielding, 1.5m    |
| CBL-F9M9-150     | DB9 female to DB9 male serial cable, 1.5 m                  |
| CBL-F9M9-20      | DB9 female to DB9 male serial cable, 20 cm                  |
| CBL-RJ458P-100   | 8-pin RJ45 CAT5 Ethernet cable, 1 m                         |

Connectors

|                 |                              |
|-----------------|------------------------------|
| ADP-RJ458P-DB9F | DB9 female to RJ45 connector |
| ADP-RJ458P-DB9M | RJ45 to DB9 male connector   |

Power Cords

|                  |                                                      |
|------------------|------------------------------------------------------|
| PWC-C13AU-3B-183 | Power cord with Australian (AU) plug, 1.83 m         |
| PWC-C13CN-3B-183 | Power cord with three-prong China (CN) plug, 1.83 m  |
| PWC-C13EU-3B-183 | Power cord with Continental Europe (EU) plug, 1.83 m |
| PWC-C13JP-3B-183 | Power cord with Japan (JP) plug, 7A/125V, 1.83 m     |
| PWC-C13UK-3B-183 | Power cord with United Kingdom (UK) plug, 1.83 m     |
| PWC-C13US-3B-183 | Power cord with United States (US) plug, 1.83 m      |

Rack-Mounting Kits

|          |                                                                  |
|----------|------------------------------------------------------------------|
| WK-45-01 | Rack-mounting kit, 2 L-shaped plates, 8 screws, 45 x 57 x 2.5 mm |
|----------|------------------------------------------------------------------|

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