User's Guide

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MobileLAN™ power 6/12

Intermec

A UNOVA Company

Intermec Technologies Corporation
6001 36th Avenue West
P.O. Box 4280
Everett, WA 98203-9280

U.S. service and technical support: 1-800-755-5505
U.S. media supplies ordering information: 1-800-227-9947

Canadian service and technical support: 1-800-668-7043
Canadian media supplies ordering information: 1-800-268-6936

Outside U.S.A. and Canada: Contact your local Intermec service supplier.

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Before You Begin

This section introduces you to standard warranty provisions, safety precautions, and cautions and notes.

Warranty Information

To receive a copy of the standard warranty provision for this product, contact your local Intermec sales organization. In the U.S.A, call 1-800-755-5505; in Canada, call 1-800-668-7043.

Note: Opening this product may void the warranty. The internal workings of this product can only be accessed by Intermec service personnel. Radio replacements and upgrades require Intermec service personnel.

Safety Summary

Your safety is extremely important. Read and follow all warnings and cautions in this book before handling and operating Intermec equipment. You can be seriously injured, and equipment and data can be damaged if you do not follow the safety warnings and cautions.

Do not repair or adjust alone Do not repair or adjust energized equipment alone under any circumstances. Someone capable of providing first aid must always be present for your safety.

First aid Always obtain first aid or medical attention immediately after an injury. Never neglect an injury, no matter how slight it seems.

Resuscitation Begin resuscitation immediately if someone is injured and stops breathing. Any delay could result in death. To work on or near high voltage, you should be familiar with approved industrial first aid methods.

Energized Equipment Never work on energized equipment unless authorized by a responsible authority. Energized electrical equipment is dangerous. Electrical shock from energized equipment can cause death. If you must perform authorized emergency work on energized equipment, be sure that you comply strictly with approved safety regulations.

Warnings, Cautions, and Notes

Warning
Warnings contain directions that must be followed for personal and product safety. Follow all directions carefully.

Avertissement
Les avertissements comprennent des instructions qui doivent être respectées pour assurer la sécurité des personnes et de l'équipement. Respectez scrupuleusement toutes les instructions.

Caution
A Caution alerts you to an operating procedure, practice, condition, or statement that must be strictly observed to prevent equipment damage or destruction, or corruption or loss of data.

Conseil
Une précaution vous avertit d'une procédure de fonctionnement, d'une méthode, d'un état ou d'un rapport qui doit être strictement respecté pour empêcher l'endommagement ou la destruction de l'équipement, ou l'altération ou la perte de données.

Note: Notes either provide extra information about a topic or contain special instructions for handling a particular condition or set of circumstances.

About This Guide

This document provides information and procedures regarding hardware installation, setup, configuration, and management of the Power Bridges.

Prerequisite Skills and Knowledge

This guide is intended for use by network administrators who are responsible for installing and setting up network equipment; consequently, it assumes a basic working knowledge of LANs (Local Area Networks).

To use this document effectively, you should have a working knowledge of Ethernet infrastructures. In addition, you should have a working knowledge of the following:

- Basic electronics and mechanical assembly, as well as an understanding of related local building codes
- Local operating and troubleshooting procedures

1

Introduction

This chapter introduces the Power Bridge and explains how it can be used in your network.

Introducing the Power Bridge

This chapter covers the following topics:

- About the Power Bridge
- Power Bridge—front view detail
- LEDs—6-port option
- LEDs—12-port option
- Power Bridge—rear view detail
- Network configuration examples
- Power Ethernet devices

About the Power Bridge

The Power Bridge is a 6/12 Ethernet channel power-feeding device. This device is designed for use with a 10BaseT/100BaseTx standard Ethernet network over a standard TIA/EIA-568 Category 5, 6, or 6e cabling plant. The DC operating power for the data terminal units is fed through the unused pairs (7/8 and 4/5).

The Power Bridge normally powers devices that are Power over LAN Enabled or are equipped to receive power over Ethernet. Devices that are not equipped to receive power over Ethernet require an external splitter to be powered.

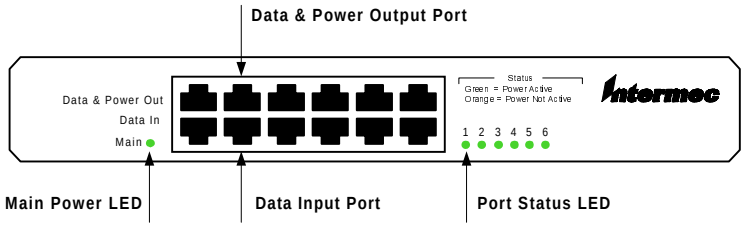
The Power Bridge features the following:

- Remote power feeding of Ethernet terminals
- 6 or 12 10BaseT/100BaseTx data + power combined channels
- Universal 90 to 264 VAC, 50 to 60 Hz power input
- Independent overload and short-circuit protection for each channel
- Port status indications as specified in this manual
- RS-232 software download, monitoring, and control serial port
- Standard 19-inch, 1.5U rack mountable (12-port option)
- Stand-alone unit, 1/2x19, 1U (6-Port option)

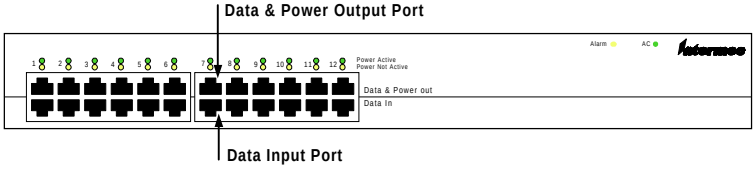
The Power Bridge also eliminates the need for terminal's AC outlets, UPS, and AC/DC adapters.

Power Bridge—Front View Detail

The next illustration shows the LEDs and ports of the 6-port Power Bridge. The LEDs and ports are explained in the next sections.



The next illustration shows the LEDs and ports of the 12-port Power Bridge. The LEDs and ports are explained in the next sections.



10BaseT/100BaseTx Data Input Ports, Lower 6/12 Ports The Power Bridge has 6/12 10BaseT/100BaseTx data input ports, configured as Media Dependant Interface (MDI) (non-crossover). These ports are designed to carry Ethernet data only (Tx/Rx) over the standard 2-wire pairs (RJ-45 pins 1/2 and 3/6).

10BaseT/100BaseTx Data and Power Output Ports, Upper 6/12 Ports The Power Bridge has 6/12 Data and Power ports configured as MDI (non-crossover). These ports are designed to carry Ethernet data over the standard 2-wire pairs (RJ-45 pins 1/2 and 3/6) and DC power source over the spare wire pair (RJ-45 pins 4/5 and 7/8).

The maximum segment length from the switch/hub to the Network Interface Card (NIC), including the Power Bridge, is 100m (328 ft), per the IEEE 802.3 standard.

LEDS—6-Port Option

The LEDs in the unit indicate the status of the Power Bridge and its ports.

- One bi-color LED (Main) marks the status of the AC power and alarm for troubleshooting.
- One bi-color LED per port provides port status.

6-Port Power Bridge Status Indications

The following tables contain Power Bridge status information as presented on the front panel by the LED indicators during normal operation.

6-Port Power Bridge Status Information

Port LED	Port Load Conditions	Port Voltage
Off	Non-active load or unplugged port	No DC voltage is present over the wires
Green	Active load is plugged in and complies with normal load conditions	Continuous nominal DC voltage is present on the spare pairs
Orange	Overload conditions or shorted terminal port or forced external voltage feed (constant DC) into the port	Power to the port is disconnected No DC voltage is present on the spare pairs
Green–Blinking	Transitional mode in which load detection is in process	Power is disconnected No DC voltage is present on the spare pair

Main LED	Main Power Status	Remarks
Off	Main internal power supply unit is unplugged or faulty	Main voltage too low
Green	Main power supply unit is plugged in and under normal operating conditions	Main voltage is within tolerance
Green–Blinking	Main power supply unit voltage exceeds specified limits	Main voltage is out of tolerance All power ports are disconnected
Red or Blinking Red	Built-in self test failed	

LEDS—12-Port Option

The LEDs in the unit indicate the status of the Power Bridge and its ports.

- Two LEDs provide the Power Bridge status. The AC LED (green) indicates that the Power Bridge is receiving AC power. The Alarm LED (orange) indicates an internal fault.

- Two LEDs (one green and one orange) per port provide port status. The Power Active LED (green) indicates that the terminal unit has been identified as Power over LAN Enabled and is active and receiving power.
- The Power Not Active LED (orange) indicates that the port is not supplying power and is not active.

Note: In the event that an Ethernet device that is not Power over LAN Enabled is connected to the Power Bridge (indicated by the orange Power Not Active LED), the Ethernet device will be unaffected because power is not being supplied.

12-Port Power Bridge Status Indications

The following tables contain Power Bridge status information as presented on the front panel by the LED indicators during normal operation.

Port LED	Port Load Conditions	Port Voltage
Green–Off Orange–Off	Non-active load or unplugged port	No DC voltage is present over the wires
Green–On Orange–Off	Active load is plugged in and complies with normal load conditions	Continuous nominal DC voltage is present on the spare pairs
Green–Off Orange–On	Overload conditions or shorted terminal port or forced external voltage feed (constant DC) into the port	Power to the port is disconnected No DC voltage is present on the spare pairs
Green–On Orange–On	Internal hardware fault	No DC voltage is present over the wires
Green–Blinking Orange–Off	Transitional mode in which load detection is in process	Power is disconnected No DC voltage is present over the wires

12-Port Power Bridge Status Indications (continued)

AC LED	Main Power Status	Remarks
Off	Main internal power supply unit is unplugged or faulty	Main voltage too low
On	Main power supply unit is plugged in and under normal operating conditions	Main voltage is within tolerance
Blinking	Main power supply unit voltage exceeds specified limits	Main voltage is out of tolerance All power ports are disconnected

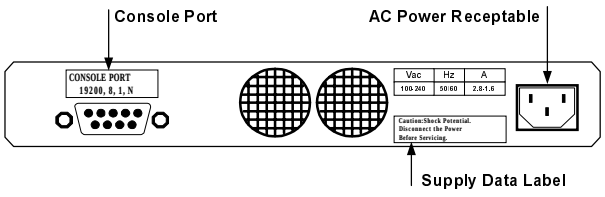
Alarm LED	Remarks
Off	Built-in self test passed
On	Built-in self test failed

For LED troubleshooting, see Appendix B.

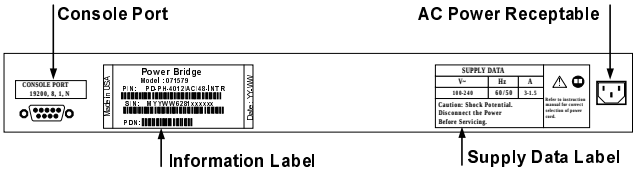
Power Bridge—Rear View Detail

The next illustrations show the rear view details of the 6-port and 12-port Power Bridges.

6-Port Power Bridge



12-Port Power Bridge



Console Port

Use the console port (DB-9 connector) to connect a terminal and to perform local out-of-band management. The console port uses a standard null modem cable and is set to 19,200 baud, 8 data bits, no parity, and 1 stop bit.

Information Label

The Information label (located on the bottom of the 1-port Power Bridge and on the rear of the 12-port Power Bridge) shows the following:

- Part number of the Power Bridge
- Serial number of the Power Bridge and date code

You may need this information for fault reporting purposes.

Supply Data Label

The Supply Data label contains information regarding the total AC power input (100 to 240 VAC), power frequency (50 to 60 Hz), and the corresponding amperes.

Refer to Appendix A for proper selection of a power cord.

AC Power Receptacle

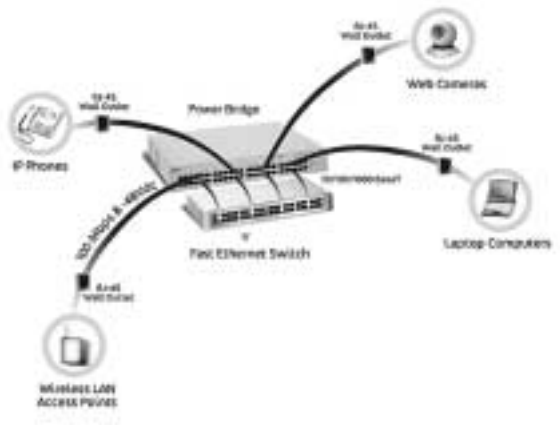
The Power Bridge automatically adjusts its power setting to any supply voltage from 90 to 240 VAC.

Warning
Electrocution Hazard. Before connecting power to the Power Bridge, please refer to the safety information in Appendix A.

Avertissement
Risque d'électrocution. Avant de connecter l'alimentation au Pont d'alimentation, veuillez consulter les informations relatives à la sécurité à l'annexe A.

Network Configuration Examples

The following illustration shows network configuration examples.



Powering Ethernet Devices

The Power Bridge may be used to power any Ethernet device with power requirements that are within the specified powering capabilities.

As shown in the previous illustration, the Power Bridge may be used to power end devices such as IP phones, web cameras, laptop computers, and others.

IP phones, for example, benefit from Power over LAN in that they no longer need an external power source connected to wall sockets, which are unreliable due to the possibility of power interruptions.

Wireless LAN (WLAN) access points may also be enabled to receive power using the Power Bridge. This can be very effective when installing WLAN access points or base stations which often require drawing power from sockets close to the ceiling, where complicated building codes and standards for power apply.

2

Installing and Setting Up the Power Bridge

This chapter contains information needed to install and set up the Power Bridge.

Installing the Power Bridge

This section covers the following topics:

- Verifying kit contents
- Recording identification information
- Choosing a suitable site
- Rack mounting (12-port Bridge only)
- Shelf mounting

Warning
You must read the safety information provided in Appendix A before carrying out any installation, removal, or maintenance procedure on the Power Bridge.

Avertissement
Vous devez lire toutes les informations concernant la sécurité à l'annexe A avant d'entreprendre l'installation, le retrait ou toute procédure d'entretien du Pont d'alimentation.

Verifying Kit Contents

Unpack the kit and verify that all of the following items are present:

- Power Bridge
- Power cord
- Mounting brackets (12-port Bridge only)
- Screws for assembling mounting brackets (12-port Bridge only)
- Rubber feet (12-port Bridge only)
- User's guide (this manual)

Recording Identification Information

Before proceeding with the Power Bridge placement and installation, record the serial number here for future reference. The serial number is located on the Information label on the bottom or rear of the Power Bridge.

Serial Number:

Choosing a Suitable Site

The Power Bridge is suited for use in an office environment where it can be free-standing or mounted in a standard 19-inch equipment rack. Alternatively, the Power Bridge can be rack-mounted in a wiring closet or equipment room. A rack mounting kit, containing two mounting brackets and six screws, is supplied with the 12-port Power Bridge.

When deciding where to position the Power Bridge, be sure that

- the Power Bridge is accessible and cables can be connected easily.
- the ambient room temperature is less than 40°C (104°F); however, the recommended room temperature is 25°C (77°F) or less.
- airflow is not restricted around the Power Bridge or through the vents in the side of the Power Bridge. We recommend that you provide a minimum of 25 mm (1 in) clearance around the sides and back of the Power Bridge, excluding mounting surfaces.
- water or moisture cannot enter the case of the Power Bridge.

In addition, be sure that cabling is away from

- sources of electrical noise such as radios, transmitters, and broadband amplifiers.
- power lines and fluorescent lighting fixtures.

Rack Mounting (12-Port Bridge Only)

The Power Bridge is 1.5U high and fits in most standard 19-inch racks.

Caution
Disconnect all cables from the Power Bridge before continuing.

Conseil
Déconnectez tous les câbles du Pont d'alimentation avant de continuer.

To mount the Power Bridge in a rack

1. Place the Power Bridge right side up on a hard, flat surface with the front facing towards you.
2. Locate a mounting bracket over the mounting holes on one side of the Power Bridge.
3. Insert the three screws and tighten them with a suitable screwdriver.

Note: You must use the screws supplied with the mounting brackets. Damage caused to the unit by using incorrect screws invalidates your warranty.

4. Repeat Steps 2 and 3 for the other side of the Power Bridge.
5. Insert the Power Bridge into the 19-inch rack and secure it to the rack with suitable screws (not provided). Ensure that ventilation holes are not obstructed.

Shelf Mounting

When shelf-mounting the 12-port Power Bridge, the self-adhesive rubber feet provided in the kit should be placed on the underside of the Power Bridge. Be sure to place the rubber feet on the provided 90° angle marking in order to ensure stable placement.

No more than four (4) Power Bridges are to be placed on top of one another if the units are shelf-mounted.

The 6-port Power Bridge is provided with rubber feet already in place.

Setting Up the Power Bridge

This section covers the following topics:

- Powering up
- Connecting cables to the Power Bridge
- Connecting cables to end devices

Powering Up

This section describes how to power up the Power Bridge.

Note: The Power Bridge has no ON/OFF switch. To connect or disconnect power to the Power Bridge, insert or remove the power cable from the AC power receptacle on the rear of the Power Bridge.

To power up the Power Bridge

1. Insert a power cord into the power socket on the rear of the Power Bridge.
2. Insert the other end of the power cord into the power receptacle. The Power Bridge powers up and the internal fans begin operating. The Power Bridge then runs through its Power On Self Test (POST). During the POST (about 10 seconds), all ports on the Power Bridge are disabled and the LEDs light up in the following sequence:

6-Port Option

1. The Main LED lights up.
2. The Main LED and Port LEDs light up.
3. The Main LED and Port LEDs light up.
4. The Main LED lights up.
5. All Port LEDs are ready for normal indications.

12-Port Option

1. The AC and Alarm LEDs light up.
2. All Power Active and Power Not Active LEDs light up.
3. All Power Active, Power Not Active, and Alarm LEDs turn off.
4. The AC LED lights up and remains lit.
5. All Power Active and Power Not Active LEDs are ready for normal indications.

Connecting Cables to the Power Bridge

The ports on the front of the Power Bridge are configured as data route through ports for all data wires (pins 1, 2, 3, and 6).

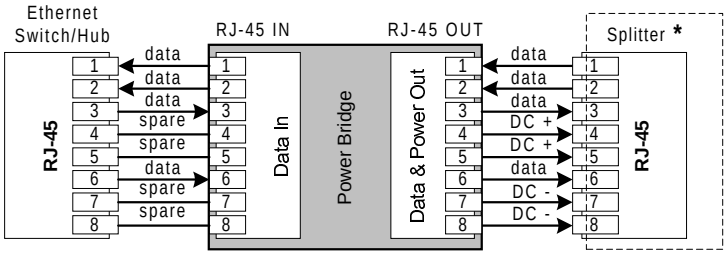
Be sure to use a standard Category 5, 6, or 6e straight-through cable including all 8 wires (4 pairs) as shown in the next illustration.

Data In Ports Using a standard Category 5, 6, or 6e straight-through cable, connect the cable leading from the Ethernet Switch/Bridge to the Data In port.

Data & Power Out Ports Using a standard Category 5, 6, or 6e straight-through cable, connect the cable leading to the end device to the corresponding Data & Power Out port.

Note: Be sure to connect correspondingly numbered Data In and Data & Power Out ports.

Connecting Cables to the Power Bridge



Connecting Cables to End Devices

The Power Bridge contains proprietary line sensing capabilities that enable it to send power only to end devices that are enabled to receive power. These end devices, termed Power over LAN Enabled, will receive power once they are connected to the Power Bridge.

The Power Bridge detects devices that are not enabled, and the Power Bridge will not send power to those devices. Data continue to flow via the Category 5, 6, or 6e cabling regardless of the status of the end device.

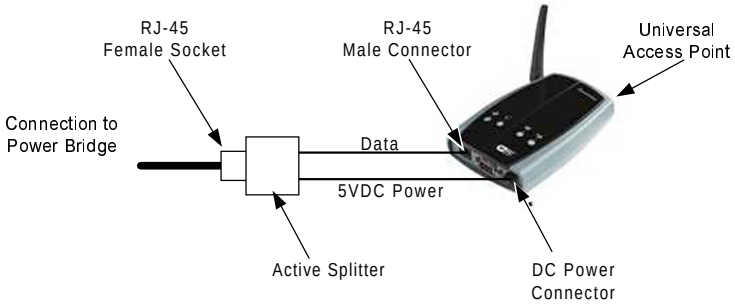
End devices that have not been enabled to receive power directly may receive power and data through an external splitter. The external splitter separates the power and data prior to connection to the end device. For more information, see the next illustration.

Before connecting end devices to the Power Bridge, determine if

- the end device is Power over LAN Enabled. If the end device is not Power over LAN Enabled, the end device may be safely connected; however, the port will not supply power and will function as a normal Ethernet data port.
- the end device requires an external splitter or only a single RJ-45 connection. If an external splitter is required, be sure to use a splitter with the correct connector and polarity.
- the end device's power requirements are consistent with the Power Bridge voltage and power ratings (see Appendix B for voltage and power ratings). If an active splitter is required, be sure to use a splitter with the correct power rating.

To connect end devices to the Power Bridge

1. Connect a Category 5, 6, or 6e cable to the end device directly (if the device is Power over LAN Enabled) or use an external splitter.
2. Connect the opposite end of the same cable to the RJ-45 wall outlet. Monitor the response of the corresponding Port LEDs. If the Power Active LED lights up, the Power over LAN hub has identified your end device as a Power over LAN Enabled device, and the port is sending power.



A

Safety Information

This chapter explains safety information.

Important Safety Information

Installation and removal of the Power Bridge must be carried out by qualified personnel only.

You must read the following safety information before installing, removing, or maintaining the Power Bridge.

Warning
Read the installation instructions in Chapter 2 before connecting the Power Bridge to its power source.

Avertissement
Veuillez lire les instructions d'installation au chapitre 2 avant de connecter le Pont d'alimentation à sa source d'alimentation.

Warning
Follow basic electricity safety measures whenever you connect the Power Bridge to its power source.

Avertissement
Respectez les mesures de sécurité de base en matière d'électricité lorsque vous connectez le Pont d'alimentation à sa source d'alimentation.

Warning
The Power Bridge chassis is intended to be grounded. Ensure that the power host is connected to earth ground during normal use.

Avertissement
Le châssis du pont d'alimentation est destiné à être mis à la terre. Assurez-vous que l'hôte d'alimentation est relié à la terre pendant une utilisation normale.

Warning
This product relies on the building installation for short-circuit (overcurrent) protection. Ensure that a fuse or circuit breaker no larger than 120 VAC, 15A U.S. (240 VAC, 10A international) is used on the phase conductor.

Avertissement
Ce produit suppose qu'une protection contre les courts-circuits (surcharges) est assurée par le bâtiment. Assurez-vous qu'un fusible ou un disjoncteur ne dépassant pas 120 VCa, 15A aux É.-U. (240 VCa, 10A au niveau international) est utilisé sur le conducteur de phase.

Warning
Do not work on the system or connect or disconnect cables during periods of lightning activity.

Avertissement
N'utilisez pas le système ou ne connectez ou ne déconnectez pas les câbles en cas d'éclairs à l'extérieur.

Warning
A voltage mismatch can cause equipment damage and may pose a fire hazard. If the voltage indicated on the label is different from the power outlet voltage, do not connect the Power Bridge to this power outlet.

Avertissement
La non concordance de la tension peut endommager l'équipement et entraîner des risques d'incendie. Si la tension indiquée sur l'étiquette ne correspond pas à la tension de la prise d'alimentation, ne branchez pas le Pont d'alimentation sur cette prise de courant.

Warning
For shelf-mounted equipment, be certain that the surface is stable and strong enough to support the equipment. Do not stack more than four (4) Power Bridges on top of one another.

Avertissement
Pour tout équipement monté sur une étagère, assurez-vous que la surface est stable et suffisamment solide pour soutenir l'équipement. N'empilez pas plus de quatre (4) ponts d'alimentation l'un sur l'autre.

Warning
Ultimate disposal of this product should be handled according to all national laws and regulations.

Avertissement
L'élimination de ce produit doit respecter les lois et les règlements du pays en question.

Warning
The Power Bridge Data In and Data & Power Out ports are shielded RJ-45 data sockets. They cannot be used as Plain Old Telephone Service (POTS) telephone sockets. Only RJ-45 data connectors may be connected to these sockets.

Avertissement
Les ports d'entrée de données du Pont d'alimentation et de sortie de l'alimentation sont munis de prises de données blindées RJ-45. Ces prises ne peuvent pas être traitées comme de simples prises de téléphone ordinaires. Utilisez seulement des connecteurs de données RJ-45 avec ces prises.

Power Cord Set

The power cord must be approved for the country in which it is used.

Country	Approvals
U.S.A. and Canada	The cord set must be UL-approved and CSA certified. The minimum specification for the flexible cord is: No. 18 AWG Type SV or SJ 3-conductor The cord set must have a rated current capacity of at least 10A. The attachment plug must be an earth-grounding type with a NEMA 5-15P (15A, 125V) or NEMA 6-15P (15A, 250V) configuration.
Denmark	The supply plug must comply with section 107-2-D1, standard DK2-1a, or DK2-5a.
Switzerland	The supply plug must comply with SEV/ASE 1011.

- The appliance coupler (the connector to the unit and not the wall plug) must have a configuration for mating with an EN60320/IEC320 appliance inlet.
- The socket outlet must be near the unit and easily accessible. You can only remove power from the unit by disconnecting the power cord from the outlet.
- This unit operates under SELV (Safety Extra Low Voltage) conditions according to IEC 950. The conditions are only maintained if the equipment to which it is connected also operates under SELV conditions.
- Switzerland only:
  The supply plug must comply with SEV/ASE 1011.
- France and Peru only:
  This unit cannot be powered from IT supplies. If your supplies are of IT type, this unit must be powered by 230V (2P+T) via an isolation transformer ratio 1:1, with the secondary connection point labeled Neutral connected directly to earth (ground).

  U.K. only:
  The Power Bridge is covered by Oftel General Approval, NS/G/12345/J/100003, for indirect connection to a public telecommunications system. This can only be achieved using the console port on the unit and an approved modem.

B

Specifications and Troubleshooting

This appendix lists the 6- and 12-port Power Bridge hardware specifications, electrical specifications, and troubleshooting.

6-Port Specifications

This section lists the various specifications of the 6-port Power Bridge.

Physical Specifications

Dimensions	Height: 44 mm (1.73 in) with rubber feet Width: 241 mm (9.5 in) Length: 400 mm (15.75 in)
Weight	1.6 kg (3.5 lb)

Environmental Specifications

Mode	Temperature	Humidity
Operating	0 to 40°C (32 to 104°F)	10 to 90% (no condensation allowed)
Storage	-20 to 70°C (-4 to 158°F)	10 to 90% (no condensation allowed)

Electrical Specifications

Input voltage	90 to 264 VAC (47 to 63 Hz)
Input current at 110 VAC	2.8 Amperes maximum
Maximum continuous output power per port	16.8 Watts
Total power consumption, continuous, 6 ports at full load	135 Watts maximum
Nominal output voltage, per port	48 VDC (±4V)

Ethernet Interface

Input (Data In): 6 ports; Ethernet 10BaseT/100BaseTx	RJ-45 female socket
Output (Data & Power Out): 6 ports; Ethernet 10BaseT/100BaseTx and 48 VDC	RJ-45 female socket, with DC voltage on pins 7/8 and 4/5)

Serial Port Interface

Connector Type

DB9 male serial data monitor port

12-Port Specifications

This section lists the various specifications of the 12-port Power Bridge.

Physical Specifications

Dimensions	Height: 66 mm (2.6 in) 72 mm (28 in) with rubber feet Width: 440 mm (17.3 in) 483 mm (19.0 in) with 19 brackets Length: 300 mm (12.0 in)
Weight	3.7 kg (8.2 lb)

Environmental Specifications

Mode	Temperature	Humidity
Operating	0 to 40°C (32 to 104°F)	10 to 90% (no condensation allowed)
Storage	-20 to 70°C (-4 to 158°F)	10 to 90% (no condensation allowed)

Electrical Specifications

Input voltage	90 to 264 VAC (47 to 63 Hz)
Input current at 110 VAC	3 Amperes maximum
Total power consumption, continuous, 12 ports at full load	216 Watts maximum
Output power, per port	16.8 Watts
Nominal output voltage, per port	48 VDC (±4V)

Ethernet Interface

Input (Data In): 12 Ports; Ethernet 10BaseT/ 100BaseTx	RJ-45 female socket
Output (Data & Power Out): 12 Ports; Ethernet 10BaseT/100BaseTx, and 48 VDC	RJ-45 female socket, with DC voltage on pins 7/8 and 4/5

Serial Port Interface

Connector Type

DB9 male serial data monitor port

Troubleshooting

This section provides a symptom and resolution sequence to assist you with troubleshooting minor operating problems. If the provided resolutions do not solve your problem, call your local dealer for further assistance.

If you encounter problems:

- Be sure that power is applied to the Power Bridge.
- Be sure that a “crossover” type Ethernet cable is not used.
- Be sure that the input Ethernet cable is connected to the Data In port.
- Be sure that the output Ethernet cable is connected to the Data & Power Out port.
- Be sure that the input and output cable pairs are attached to corresponding ports.

Commonly Asked Technical Support Questions

Problem/Question	Possible Solution/Answer
The Power Bridge is plugged into the main AC inlet but does not power up.	Verify that the AC power cord is correct, functioning, and has a solid ground connection.
	Verify that the AC inlet is supplying power (test with a different device) and that the voltage is from 100 to 264 VAC (50 to 60 Hz).
	Reconnect the Power Bridge to the AC inlet and verify the LED power up sequence.
Power Bridge is plugged in and running, but the fans are not working.	Verify that none of the fan openings in the case are blocked.
	If fans are not working, you may have an internal power supply fault.
Power Bridge operates but the AC/Main LED is off.	If both internal fans are working (i.e., air flows out of the case or can be heard), you may have an internal circuitry fault.
	If fans are not working, you may have an internal power supply fault.
The Power Bridge has powered up and the Alarm LED remains lit, or the Main LED is lit (or blinks) in red.	See the LEDs section in this guide, and determine if the Power On Self Test (POST) sequence works as listed. If the LEDs light up in the correct sequence, the Power Bridge is fully operational.
	If the Alarm LED remains lit following the POST sequence, the Power Bridge POST detected an internal fault. Contact your local dealer.
The Power Active LED is lit, but one of the end devices does not operate.	Verify that the Power Active LED that is lit corresponds to the end device that is not working.
	The Power Bridge successfully identified the end device as Power over LAN Enabled and is providing power. Connect a different end device to the same port—if the end device operates, the previous end device is faulty.

Commonly Asked Technical Support Questions (continued)

Problem/Question	Possible Solution/Answer
The Power Active and Power Not Active LEDs on one port are not lit, and the corresponding end device does not operate.	The Power Bridge did not detect a connected end device; therefore, the port is not providing power. Verify that you are using a standard UTP Category 5, 6, or 6e cable, including all 8 wires (4 pairs). If you are using an external splitter, you may have a faulty splitter. Replace your splitter. Verify that you are not using a crossover twisted pair wire. Verify that the end device is connected to the Data & Power Out port (upper RJ-45 connector). You may have a faulty port or RJ-45 connection. Reconnect the same end device into a different port on the same unit. You may have a faulty connection, a short on the long cable, or a faulty RJ-45 connection along the line. Bypass the long twisted pair cable and bring the end device closer to the Power Bridge. Connect it to one of the ports using a short cable. You may have a faulty Power Bridge. If possible, connect the end device to a different Power Bridge, and then power up again. Verify that the LEDs light up in proper sequence.

Commonly Asked Technical Support Questions (continued)

Problem/Question	Possible Solution/Answer
The end device operates, but there is no data link.	Verify that the Power Active LED on the Power Bridge front panel is lit continuously. Verify that the Data In and Data & Power Out ports correspond. You may have a faulty splitter. Replace your splitter. Verify that you are using a standard UTP Category 5, 6, or 6e cable, including all 8 wires (4 pairs) and is no longer than 100 m (328 ft) between the switch and the end device. Verify that you are not using any crossover twisted pair wires. Verify that the Power Bridge is connected to a switch/hub with a good RJ-45 patch cord connection. You may have a faulty connection, a short on the long cable, or a faulty RJ-45 connection along the line. Bypass the long twisted pair cable and bring the end device closer to the Power Bridge. Connect it to one of the ports using a short cable. You may have a faulty data link in the end device. Try connecting a different end device to the same port. You may have a faulty Data & Power Out or Data In port in the Power Bridge or a faulty RJ-45 connection. Reconnect the end device to a different Data & Power Out port and remember to move the Data In port of the Switch/Bridge accordingly.

Commonly Asked Technical Support Questions (continued)

Problem/Question	Possible Solution/Answer
A Power Not Active LED on one port is lit, and the end device is not operating.	Wait 5 to 10 seconds while the Power Not Active LED is on and the end device is connected—if the LED changes to Power Active, there was a charged capacitor in the end device, which was discharged after being plugged in. The end device can then be detected and activated. Verify that you are not using any crossover cable between the Power Bridge Power & Data Out port and the end device. The end device may require an external splitter. If an external splitter is already in use, replace it with a new splitter. If this is effective, discard the faulty splitter. You may have a faulty connection, a short on the long cable, or a faulty RJ-45 connection along the line. Bypass the long twisted pair cable and bring the end device closer to the Power Bridge. Connect it to one of the ports using a short cable. You may have a faulty port or RJ-45 connection. Move the device into a different output port. You may have a faulty port or an internal short in the RJ-45 socket. Unplug the device and verify that the Power Not Active LED turns off.
One of the ports is powering an end device without turning the Power Active LED on.	Reconnect the end device to a different Data & Power Out port—if the LED turns on, there is a fault in the previous output port (probably a faulty LED).
Is it safe to keep the Power Bridge running while a Power Not Active LED is on?	Yes, this is a safe condition. Power Not Active conditions mean that a non-power-ready device was detected, terminals 4/5 and 7/8 are shorted together or forced external power feed into the port. During these conditions, port power is disconnected; however, a single low power pulse every 5 seconds continues to sense the line.