

**Compact ApplianX  
Installation Guide  
1U Chassis**

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## 1 Getting started

### 1.1 Unpacking and assembly

#### 1.1.1 Chassis packaging

The ApplianX box contains the following accessories:

- One IEC 60320 type C13 power cord
- Quick start reference
- Standard 19 inch rack locating brackets (fitted to chassis)
- Four low profile adhesive feet (fitted to chassis, removable)

The chassis packaging is made from material which can be recycled.

#### 1.1.2 ApplianX location

The chassis must be installed in a restricted access location in accordance with IEC 60950-1: 2005 Clause 1.7.14.

#### 1.1.3 Rack mounting 19 inch equipment

**WARNING** THE CHASSIS WEIGHS UP TO 3KG. THE WEIGHT SHOULD BE TAKEN INTO CONSIDERATION WHEN EQUIPMENT CABINETS AND MOUNTING HARDWARE ARE PURCHASED AND INSTALLED. CONSULT YOUR COMPANY HEALTH & SAFETY PROCEDURES AND POLICIES FOR GUIDANCE ON LIFTING AND HANDLING.

Care must be taken to prevent a hazardous condition due to uneven mechanical loading.

The unit may also be located on a shelf in a 19 inch cabinet.

#### 1.1.4 Free standing

The unit is also suitable for free standing operation, in which case the standard rack mounting brackets may be removed. In free standing installations care must be taken to provide adequate strain relief to all cables to prevent damage to the unit if accidentally moved.

#### 1.1.5 Airflow and cooling

**CAUTION** The chassis uses forced air-cooling internally. It is imperative that ApplianX systems are operated with all covers fitted and that none of the ventilation holes/slots on the front, or rear of the chassis are obstructed. Installation in a rack should be such that the airflow required for safe operation is not compromised.

When rack mounted in a closed or multi-unit cabinet, the operating environment of the cabinet environment may be greater than the room ambient. In this case consideration should be given to maintaining an operating environment that does not exceed 40 °C.

Internal operating temperatures may be monitored via the System Administrator browser interface

### 1.1.6 Power connection

The Applianx is supplied as an AC powered system. The ApplianX will auto adjust to the supplied voltage in AC installations (100 to 240 volts AC  $\pm$  10% at 50 to 60Hz  $\pm$  3Hz). The internal power supply is rated at a maximum of 55W, however the unit is designed to consume no more than 25W during normal operation (see Appendix D).

Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

### 1.1.7 Earth connection

Reliable earthing of rack mounted equipment must be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit, such as mains distribution strips that are typically located inside equipment cabinets.

Note Read the safety information in Appendix B: before installing any equipment.

### 1.1.8 Electrostatic discharge precautions



During installation and maintenance, handle all connectors by their plastic casing or connector shield. Do not touch metal parts within any socket as you plug connectors in.

Before plugging in any interface cables, ground yourself to dissipate any static charge you may be carrying.

These precautions will minimise the chance of any ESD damage to the ApplianX.

### 1.1.9 1U chassis physical details

The ApplianX chassis is designed to fit into 19 inch rack mounting cabinets commonly found in telecoms switch room environments.

|                     | Width | Depth | Height | Weight # |
|---------------------|-------|-------|--------|----------|
| With rack mounts    | 435mm | 210mm | 45mm   | max 3kg  |
| Without rack mounts | 430mm | 210mm | 45mm   | max 3kg  |

# Subject to variation between different system capacities



Figure 1-1 1U chassis front layout (4 trunk shown)

The front of the chassis presents a panel with the following:

- A power indicator
- Up to four E1/T1 trunk connectors depending on system capacity
- One fast Ethernet connector for System Administration
- Two fast Ethernet connectors for VoIP traffic
- One USB connector (type A) for system updates and/or backups

The rear of the chassis provides access to the following interfaces and information :

- AC power inlet fitted with an IEC 60320 type C14 socket
- Rating label

## 1.2 Powering the ApplianX on

Connect power cord to the ApplianX according to the following procedure :

- Check that the electrical outlet is grounded and it is within the permitted range shown on the rating label
- Plug the power cord into the AC power inlet socket on the rear of the ApplianX
- Connect the other ends of the power cord into a suitable electrical outlet
- Connect E1/T1 or Ethernet network cables as required. The type of cables and connectors used depend upon the interface mix contained with the ApplianX

Note The system may take several minutes to initialise following power on

## 1.3 Powering the ApplianX off

To completely remove all power from the unit, disconnect the mains cord from the AC inlet.

It is recommended to maintain a 30 second gap between each power off and power on cycle.

## 1.4 E1/T1 trunk numbering

Each ApplianX E1/T1 connector is assigned a unique number. These numbers are assigned sequentially beginning at one. The front panel labelling identifies the trunk numbering.

## 1.5 Ethernet connections

Each Ethernet connection has a unique MAC address and will be assigned an initial IP address when connected to the network. Please consult the specific application documentation for information on configuring IP addresses.

The VoIP Traffic interfaces are designed to connect to full duplex Ethernet switch equipment, which can sustain the required data throughput with little or no packet loss. There are two VoIP Traffic interfaces as this can offer additional redundancy, if required, in a correctly configured network. Assuming both interfaces are connected and have valid layer 1 connections, the ApplianX will default to one interface to carry VoIP traffic rather than performing load sharing.

Design of a redundant Ethernet network is beyond the scope of this document, however at a minimum, each VoIP Traffic interface would connect to a separate Ethernet switch.

## 1.6 Cabling

The ApplianX is connected to other network equipment via CAT 5, 5e, 6 or 6e cables. There are two types of interface and they have different pin assignments.

The pin-out of the RJ45/48 connectors for both E1/T1 and Ethernet connections are detailed below. For E1/T1 and 10/100 Ethernet connections :

- Receive on the ApplianX should be connected to transmit on the network equipment
- Transmit on the ApplianX should be connected to receive on the network equipment

Cross-over cables will be required in instances where two connector sockets with the same signal pinouts are connected together.

**Note** E1/T1 crossover cables are wired differently to 10/100 Ethernet crossover cables

**Note** Shielded cables are recommended in all instances.

Ample strain relief should be fitted when installing all cables, both signal and power. Any damage caused by inadequate strain relief to cards or power connectors will not be covered by your warranty.

Both E1/T1 and Ethernet cables may be connected and disconnected while the unit is active.

Bear in mind that disconnecting an active E1/T1 trunk will cause an alarm condition both within the ApplianX unit and at the corresponding network end of the cable. You may wish to check with the network operator if there is a requirement for advance notification of E1/T1 trunk installation and maintenance.

**CAUTION** When making a telephony network connection, to minimize the risk of fire, only telecommunications line cord of 26 AWG or larger may be used.

### 1.6.1 Cable pinouts

#### 120 Ohm E1 or 100 Ohm T1

The 8-contact RJ45 Plug on the cable between each E1/T1 trunk and the 100 or 120 Ohm network trunk must be wired as follows:

| Pin | Signal | Direction |
|-----|--------|-----------|
| 1   | Rx+    | input     |
| 2   | Rx-    | input     |
| 4   | Tx+    | output    |
| 5   | Tx-    | output    |

#### 10/100Base-T (VoIP Traffic and System Administration)

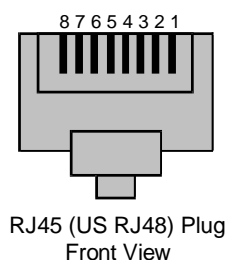
The 8-contact RJ45 Plug on the cable between the card and an 10/100Base-T network must be wired as follows:

| Pin | Signal | Direction |
|-----|--------|-----------|
| 1   | Tx+    | output    |
| 2   | Tx-    | output    |
| 3   | Rx+    | input     |
| 6   | Rx-    | input     |

Cat 5 cabling is recommended for 10/100Base-T Ethernet connections. All eight wires are normally populated on off the shelf Ethernet patch cables.



## Connector orientation



**Figure 1-2 RJ45 pin numbering**

Cat 5 cabling is recommended for 120 and 100 Ohm trunk connections.

### 1.6.2 75 Ohm E1 trunk connection

**Note** Each E1 trunk in an ApplianX chassis has configurable impedance. Some legacy E1 PSTN networks require 75 Ohm trunk connection. The default impedance for E1 trunks in the ApplianX is 120 Ohm. It is important to confirm with the network operator which impedance the PSTN is using during the installation process, as a mismatch can lead to signal degradation and erratic equipment behaviour that is difficult to diagnose later.

The following signalling services may be expected to be configured for 75 Ohm in legacy switching equipment which provide the following protocols :

DASS2

DPNSS

All E1 CAS protocols

Each 75 Ohm trunk is normally connected via a pair of coaxial cables with BNC connectors. A Balun is available to convert between RJ45 and co-axial cabling. The Balun also converts between 120 and 75 Ohm interfaces, so the system does not need to be configured for 75 Ohm operation when this type of converter is used.



**Figure 1-3 75 Ohm E1 Balun**

### 1.6.3 Cable lengths

Cat 5 cabling is designed for an overall span length of 100m. It is recommended that the length of either a single point to point cable, or the cumulative length of multiple cables which may be connected via a patch panel does not exceed 100m. For span lengths approaching the 100m recommended limit it is important to specify and install high quality cables.

For E1 trunks converted to BNC cabling, it is recommended that overall span length is limited to 100m maximum and that 75 Ohm cabling and connectors are used. The 75 Ohm adapter should be installed close to the ApplianX RJ45 socket to minimise impedance mismatch effects.

Span lengths in excess of 100m may continue to operate, in this case the installer should check that there is adequate margin on signal levels to maintain expected service levels.

## 1.7 Ethernet equipment legacy compatibility

The ApplianX System Management Ethernet interface is designed to operate at Fast Ethernet (100Base-T) data rates. If connected to network equipment that is gigabit capable, the interface will negotiate the highest data rate available to both ends.

The ApplianX VoIP traffic interfaces are designed to operate at Fast Ethernet (100Base-T) data rates. If connected to network equipment that is not Fast Ethernet capable, the interface will attempt to negotiate a 10Base-T link speed. In most cases this will impose an artificially low channel count on VoIP connections that will limit the ApplianX system capacity.

**CAUTION** The VoIP Traffic interfaces should not be connected directly to legacy “hub” (half duplex) network equipment.

Modern Ethernet switching equipment operates in a full duplex data mode. It is not recommended to route VoIP traffic via a network path containing a half duplex “hub” as this will reduce system performance.

## 1.8 System initialisation

The system start-up process will run automatically at power on, and will start the ApplianX application. Please refer to the User Guide for system configuration options.

## 1.9 Initial hardware checks

When the ApplianX is turned on, the STARTUP indicator will turn on and the unit will go through the initialisation sequence. When complete, the READY indicator on the front panel will turn on.

## 1.10 Cabling checks when system is operational

You can check the continuity of the cabling by looking at the connection state of each interface using the ApplianX management interface.

Correctly cabled trunks will show good Layer 1 status. If a trunk is showing a Layer 1 error, check the network equipment (switch) connected to that trunk. There is additional Layer 1 information on the Alarms page.

An E1/T1 trunk with No Signal detected (NOS) means either open circuit on the receive path or the paths are crossed i.e. RX connected to RX and TX to TX

An E/T1 trunk with Remote Alarm Indication Detected (RAI) normally means the receive path is good but the transmit path may be open circuit.

All connected trunks must show good Layer 1 status before you attempt to pass calls though the ApplianX.

The User Guide provides additional detail about trunk and Ethernet configuration and troubleshooting.

## 1.11 Common set-up problems

### 1.11.1 System TDM clock not configured

Where one or more E1 or T1 trunks are connected to network equipment, correct operation depends on TDM clock synchronisation.

A common set-up problem concerns the configuration of the system TDM clock which is required to synchronise the ApplianX to other E1/T1 equipment. This should be set to recover the clock from a network source or PSTN, where available. The recovered clock source will default to E1/T1 trunk 1 and may be re-configured to any other connected E1/T1 trunk via the System Administration browser interface.

It is not possible to synchronise one ApplianX to multiple network sources that are not synchronised to each other. An example of this scenario can be two or more E1/T1 trunks, each connected to a separate carrier network.

### 1.11.2 ISDN network/user conflict

Many E1/T1 ISDN signalling protocols have asymmetric user and network end configurations. By default, the ApplianX will be configured to user end where there is a configuration option. The ApplianX configuration for each E1/T1 ISDN interface can be changed via the System Administration browser interface.

### 1.11.3 CAS network conflict

Some E1/T1 CAS signalling protocols have configuration settings that may prevent correct operation if there is a mismatch between the ApplianX and the network. The ApplianX has default configurations that should work correctly in the majority of installations. Please consult the local E1/T1 network operator for CAS signalling requirements. The ApplianX configuration for each E1/T1 CAS interface can be changed via the System Administration browser interface.

### 1.11.4 Ethernet IP address conflict

All Ethernet end points in a network require a unique IP address. Consult the network administrator if there is an IP address conflict. This may occur if multiple ApplianX units are installed at the same time, so it is good practice to plan IP address configuration for each ApplianX at an early stage of installation.

### 1.11.5 Ethernet IP address out of range

All Ethernet end points in a network require a valid and unique IP address. Consult the network administrator for information on the available range of IP addresses.

## 2 Hardware maintenance

### 2.1 Servicing

There are no user serviceable parts inside the ApplianX chassis. The unit may optionally be powered off for inspection every year and to remove any dust that accumulates internally. This should only be performed by qualified technical personnel.

## 2.2 Cooling fan failure

The unit relies on forced air cooling to maintain the internal electronics within rated operating temperatures. The unit has two cooling fans visible at the rear. The unit is designed to continue operating with a single fan failure. It is strongly recommended that the unit is scheduled for fan replacement in the event of any fan failure. Fan operation can be checked by accessing the system status page via the application specific browser interface.

Contact your supplier for advice on fan replacement if the unit is out of warranty.

## 2.3 Moving an installed ApplianX

An ApplianX should not be moved while operating. If an ApplianX has to be moved, the power must be disconnected to prevent equipment damage or risk to operator safety. Please follow the application specific system shutdown procedure prior to powering down an operating appliance.

## 2.4 Backup and restore

An option may be provided with the ApplianX application software to enable the backup and restoration of important data and configuration files.

Please consult the User Guide for backup and restore options and procedures.

## 2.5 Basic fault finding

The following list provides examples of possible reasons for the unit not operating correctly.

| Symptom   | Possible cause  |
|---|---|
| Unit does not power up                          | Check power cabling and fuses.  |
| Unit displays warning indicator on front panel  | Unit not configured or E1/T1 cables not correctly connected   |
| Unit displays Error indicator on front panel    | Unit non-functional – may require software re-install   |
| E1/T1 trunk non-operational                     | Check layer 1 information via browser interface. Possible cable disconnection, network/user protocol configuration or incorrect TDM clock recovery/synchronisation configuration. |
| System Administration interface non-operational | Check cabling and IP address.   |
| No VoIP traffic                                 | Check cabling and IP address.   |

## 2.6 SNMP remote monitoring

Each ApplianX application includes remote monitoring appropriate to the system operation. Please consult the User Guide for advice on the available monitoring information and suitable monitoring software.

## Appendix A: Warranty and support

### A.1 Warranty

The standard warranty of 2 years applies to all ApplianX components. All cover is return to supplier.

**Note** Please contact your supplier for warranty enquiries.

The standard warranty does not cover damage, deterioration or malfunction resulting from :

- Accident, misuse, neglect, fire, water, lighting, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
- Repair or attempted repair by anyone not authorized by your supplier.
- Causes external to the product such as electric power fluctuations or failure.
- Normal wear and tear.
- Any other causes which do not relate to a product defect.

### A.2 Returns procedure

Under the standard warranty, a faulty ApplianX should be returned to your supplier by following their Returned Material Authorisation procedure.

### A.3 Spare parts and accessories

Please take a note of the serial number on the ApplianX when contacting your supplier for spare parts, and ensure you mention the parts are for an ApplianX chassis.

The serial number is normally located at the rear of each unit.

Spare and replacement power cords are available from your supplier.

E1 75 Ohm BNC cable adapter kits are available from your supplier.

### A.4 Contact information

Warranty and support information is provided with your ApplianX. Your warranty and support terms will include any specific contact details.

### A.5 ApplianX technical support

ApplianX systems have application specific built-in technical help available via the System Administration browser interface. Please consult this before contacting first line technical support.

Always have the serial number available prior to contacting technical support. It will assist the support team if you can also quote the type of ApplianX that is printed under the ApplianX logo on the front panel.

**Note** Please contact your supplier for first line technical support enquiries.

General ApplianX information :

[www.ApplianX.com](http://www.ApplianX.com)

## Appendix B: Safety information

### B.1 AC Power requirements

The rating plate details the permitted voltage and frequency range for that particular unit.

**CAUTION** Under no circumstance connect the ApplianX to a power source with voltage or frequency different to that stated. Contact your local supplier for advice if your power input is different to that shown on the rating label.

The ApplianX can operate with the following AC power inputs:

| Power input type            | AC chassis (Amps)       |
|-----------------------------|-------------------------|
| North America – 115VAC 60Hz | 0.6 max, 0.2 continuous |
| UK and Europe – 230VAC 50Hz | 0.3 max, 0.1 continuous |

**WARNING** THIS EQUIPMENT IS NOT DESIGNED FOR USE WITH AN I.T. POWER SUPPLY (A POWER DISTRIBUTION SYSTEM THAT HAS NO DIRECT CONNECTION TO GROUND, AND WHERE THE EXPOSED CONDUCTIVE PARTS OF THE ELECTRICAL INSTALLATION ARE GROUNDED).

### B.2 AC Power cords

The ApplianX is supplied with moulded IEC60320 input power cords. Within the United Kingdom these will be ASTA (Association of Short Circuit Testing Authorities) approved power cords with moulded 13A 3 Pin plugs. These should be fused at 5A.

Within Europe these will be moulded 3 Pin plugs with suitable European agency approval marks. Additionally the cords will be <HAR> marked.

Within North America these will be moulded 3 Pin plugs with UL and CSA type approval.

The power cords supplied will be terminated suitable for your local requirements. In cases where no plug is fitted or if a plug needs to be changed, the plug may only be fitted by a person competent to fit a plug of the type suitable for the required power outlet. If a power cord needs to be replaced, an appropriately approved power cord must be used.

### B.3 Circuit definition

The Ethernet (VoIP Traffic and System Administration) and USB interfaces are Safety Extra Low Voltage (SELV) circuits. SELV circuits are so designed and protected that under normal conditions the maximum voltage between any two accessible circuit parts, one of which may be body or ground, does not exceed 42.4 volts (peak AC) or 60VDC, even in the presence of a single fault.

E1/T1 interfaces are Telecommunication Network Voltage (TNV) circuits operating within the limits of SELV. The E1/T1 interfaces have transient voltage protection circuits built in.

**Note** Where equipment is intended to be electrically connected to other equipment, interconnection circuits shall be selected to provide continued conformance with the requirements of Clause 2.3 of IEC60950-1 for SELV circuits, and

with the requirements of clause 6 for TNV circuits, after making connections between equipment.

**Note** Make sure that the integrity of the SELV system is maintained when connection is made through any other interface within the system. If in any doubt seek competent advice.

## **B.4 Grounding the ApplianX**

The ApplianX must be grounded as detailed below:

- Use a grounded 3 connection IEC60320 AC power cable

## **B.5 Serviceable parts**

The Appliance has no user serviceable parts inside.

## **B.6 Regulatory marking**

The CE Marking has been applied to the ApplianX to demonstrate compliance with the following European standards :

EN55022 and EN55024 for electromagnetic compatibility.

EN60950 for electrical safety.

## **B.7 USA/Canada federal communication commission warnings**

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy, and if not installed in accordance with the instruction manual may cause harmful interference to radio communications.

The device complies with part 15 of the rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

No changes or modifications to the ApplianX are allowed without explicit written permission from Aculab. Any changes or modifications could void the end users authority to operate the device and invalidate the warranty.



## Appendix C: Sicherheitshinweise

### C.1 Wechselspannungsanforderungen (AC)

Das Typenschild gibt die erlaubte Stromstärke und den Frequenzbereich für dieses System

wieder.

#### VORSICHT

Schliessen Sie Applianx unter keinen Umständen an eine andere als die angegebene Stromquelle mit dem vorgegebenen Frequenzbereich an. Setzen Sie sich mit einem für ihre Region zuständigen Lieferanten in Verbindung, wenn Ihre Spannungsversorgung vor Ort nicht der auf dem Typenschild angegebenen entspricht.

ApplianX kann mit folgenden Eingangsspannungen (AC) betrieben werden:

| Power input type            | AC chassis (Amps)       |
|-----------------------------|-------------------------|
| North America – 115VAC 60Hz | 0.6 max, 0.2 continuous |
| UK and Europe – 230VAC 50Hz | 0.3 max, 0.1 continuous |

#### WARNUNG

**DIESES GERÄT IST NICHT FÜR DEN EINSATZ MIT EINEM KALTGERÄTESTECKER VORGESEHEN (EIN SPANNUNGSVERSORGUNGSSYSTEM, DAS NICHT DIREKT GEERDET IST UND WO DIE EXPONIERTE, LEITENDEN TEILE DER ELEKTRISCHEN INSTALLATION GEERDET SIND)**

### C.2 Wechselspannung Anschluss

ApplianX wird mit IEC60320 eingeformten Netzkabel geliefert. Innerhalb Europas handelt es sich um dreipolige Stecker mit den passenden European Agency Prüfzeichen. Zusätzlich sind die Kabel mit <HAR> anerkannten Markierungen versehen.

Innerhalb Nordamerikas handelt es sich um dreipolige Stecker mit UL und CSA Typenzulassung.

Die mitgelieferten Netzkabel entsprechen Ihren Bedürfnissen vor Ort. Falls noch kein Stecker vorhanden ist oder ein Stecker ausgetauscht werden muss, darf der Stecker nur von jemandem angebracht werden, der dazu autorisiert ist. Wenn ein Spannungsversorgungs-kabel ausgetauscht werden muss, muss ein dementsprechend zugelassenes Spannungs-versorgungskabel verwendet werden.

### C.3 Definition des Stromkreises.

Die Ethernet-(VoIP-Traffic und Systemadministration) und USB-Anschlüsse sind Safety Extra Low Voltage (SELV) Schaltungen. SELV-Schaltungen sind so konzipiert und geschützt, dass unter normalen Bedingungen die maximale Stromstärke zwischen zwei beliebigen zugänglichen Teilen des Stromkreises, von denen jeweils einer Masse oder Erde sein kann, 42.4 Volt (Spitzenwert Wechselstrom) oder 60V DC nicht überschritten wird, auch im Falle eines Fehlers.

E1/T1 Schnittstellen sind Telecommunication Network Voltage (TNV) Schaltungen,



die den Bedingungen von SELV entsprechen. Die E1/T1 Schnittstellen verfügen über eingebaute Transient-Spannungs-Schutz-Schaltungen.

CAUTION Hinweis:

Wenn Sie eine elektrische Verbindung zwischen den Geräten erstellen möchten, sollten Sie gekoppelte Schaltungen wählen, um die kontinuierliche Konformität mit den Anforderungen der Klausel 2.3 des IEC60950-1 für SELV-Schaltungen, und mit den Anforderungen der Klausel 6 für TNV-Schaltung, die nach Verbindungen zwischen Geräten dauerhaft eingehalten werden, erfüllen.

**Hinweis:**

**Stellen Sie sicher, dass die Integrität des SELV-Systems erhalten bleibt, wenn eine Verbindung durch irgendeinen anderen 'Interface Port' innerhalb des Systems hergestellt wird. Bei Unklarheiten wenden Sie sich bitte an unsere qualifizierten Mitarbeiter.**

#### C.4 ApplianX - Erdung

ApplianX muss wie folgt geerdet werden:

- Verwenden Sie ein geerdetes 3-poliges Wechselstromkabel des Typs IEC60320

#### C.5 Wartungsteile

ApplianX beinhaltet keine Teile, die vom Benutzer gewartet werden müssen.

#### C.6 Regulierungszeichen

Das CE-Prüfzeichen gewährleistet, dass ApplianX den folgenden europäischen Standards entspricht.

EN55022 und EN55024 für elektromagnetische Kompatibilität

EN60950 für elektrische Sicherheit

### Appendix D: Earthing requirements for Scandinavia

Finland "Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan"

Norway "Apparatet må tilkoples jordet stikkontakt"

Sweden "Apparaten skall anslutas till jordat uttag"

Denmark "For tilslutning af de øvrige ledere, se medfølgende installationsvejledning"

## Appendix E: Technical Specifications

Operating temperature: 0 deg to 40 °C

Minimum storage Temperature: -20 °C

Operating humidity: 20% to 80% non condensing

Storage humidity: 10% to 90% non condensing

AC power input voltage: 90 to 264 VAC

AC power input frequency: 47 to 63Hz

Maximum rated power consumption: 55W

Typical steady state power consumption: 25W

Standby power consumption: 2W

E1 Trunks meet ITU G.703/G.704 recommendations

- Default 120 Ohm termination (75 Ohm configuration option)

T1 Trunks meet ANSI T1.403 recommendations

- Fixed 100 Ohm termination

## Appendix F: ApplianX documentation references

General ApplianX documentation : [www.applianx.com](http://www.applianx.com)

IP Gateway application reference : [www.applianx.com/product.aspx/IPGateway](http://www.applianx.com/product.aspx/IPGateway)