

APPLICATION NOTE

SL EV400

Quick Introduction Sheet

Preliminary Specification

November 2001

Revision 1.0

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1 GENERAL INFORMATION

1.1 Scope

This document describes how to get started with PHILIPS I•CODE Pegoda SL EV400. This is the evaluation kit of PHILIPS reader IC SL RC400. The SL RC400 is member of a new family for highly integrated reader ICs for contactless communication at 13.56 MHz. This family is called MICORE.

The content of the I•CODE Pegoda CDROM should help the user to design in the SL RC400 in a specific application or to design a new read/write device taking the I•CODE Pegoda as a reference design.

The following description covers how to set-up the needed driver to start the I•CODE Pegoda evaluation kit and should give an overview about the added documents and software libraries.

1.2 General Description

The **SL EV400 evaluation kit** is designed for two major purposes:

- **Easy plug and play demonstration of I•CODE functionality**
(With the use of the Windows demo software SLEV400Demo)
- **Fast implementation of small applications and feasibility studies**
(Using the interface protocol description and the basic functional library.)

The I•CODE Pegoda covers all functionality of the core component, SL RC400 reader IC, to be able to use this reader for easy implementation at a PC and as application development tool.
This kit is ready to use the I•CODE Pegoda read/write device to develop an application based on that hardware.

This package includes

- I•CODE Pegoda read/write device, SL EV400 (incl. USB cable). This read/write device communicates via USB to a host PC and is ready for plug-in.
- I•CODE Pegoda CD ROM containing a complete documentation set including software libraries and description as well as the demonstration program **SLEV400Demo** covering all I•CODE1 and I•CODE SLI (ISO 15693) commands. Additionally all needed drivers and Acrobat Readers for Windows set-up is included.
- 5 I•CODE Sample Labels
- 5 Samples SL RC400

Since Philips Semiconductors is mainly focused on the label IC, Philips does not produce complete inlets or labels. Nevertheless we have attached some sample labels of manufacturers that already incorporated I•CODE in their standard product range.

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1.3 System Requirements

To use the SL EV400 in a PC environment the PC has to fulfil the following requirements.

Hardware:

- PC (Intel Pentium 166 MHz or comparable)
- minimum 32 MBytes RAM
- full USB support
- 1 available USB port
- 20 MB free hard disk space
- CD-ROM or DVD-ROM drive

Operating Systems:

Supported Operating systems are

- Windows98
- Windows2000

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1.4 Getting started

After wrapping out the components, please ensure that all Windows applications are closed, the USB port is available and the supplied CD-ROM is in the drive.

1.4.1 USB DRIVER INSTALLATION

The I²CODE Pegoda uses the USB driver developed for the MIFARE[®] Pegoda.

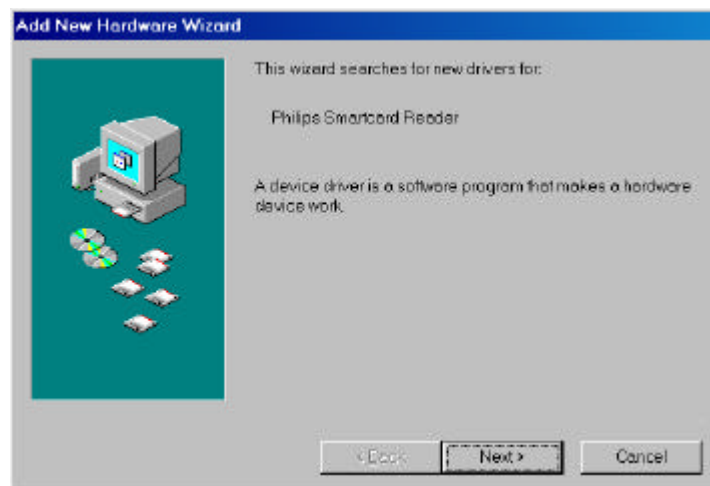
At first, connect the I²CODE Pegoda with the supplied cable and connect afterwards the cable to your PC.

Depending on the operating system you are using, the message for the new detected hardware will appear slightly different. Therefore choose the next section corresponding to your operating system.

NOTE: If the Software for the Philips MF EV700/800 is already installed on your system you do not have to install the USB driver again! You can immediately follow the install instructions for the Windows Demosoftware SL EV400Demo as described within the User Manual "SL EV400 Demosoftware".

1.4.1.1 Windows 98

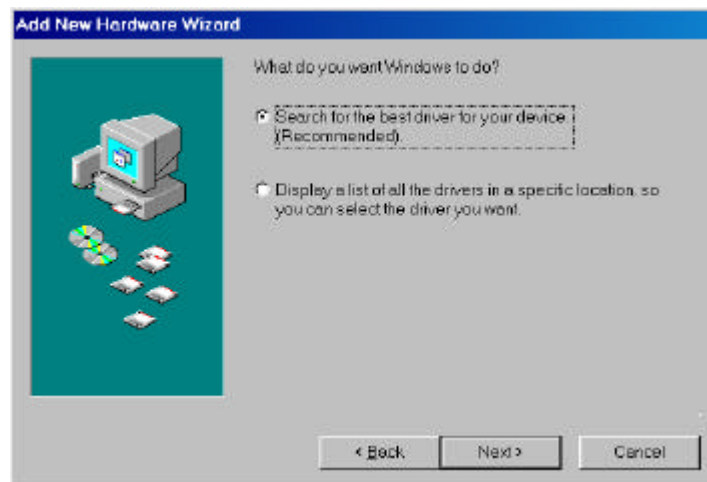
- Having connected the I²CODE Pegoda to the PC using Windows 98 as operating system a message is visible that a new hardware component is detected.



- After clicking on the **Next** button you have to search for the best driver for your device and continue with the **Next** button

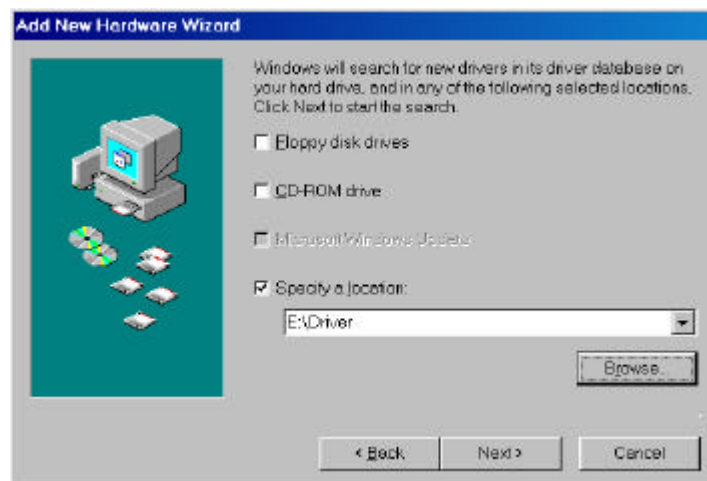
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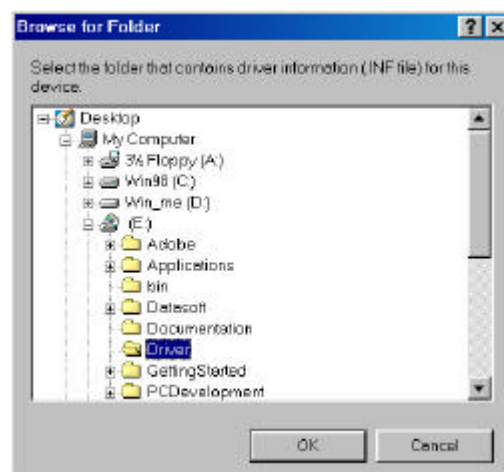


- Now a new driver has to be installed. You can specify the location of the driver files in the lower entry field.

Please press the **Browse** button to specify the location of your driver file **usbio.inf** and specify the driver's location.



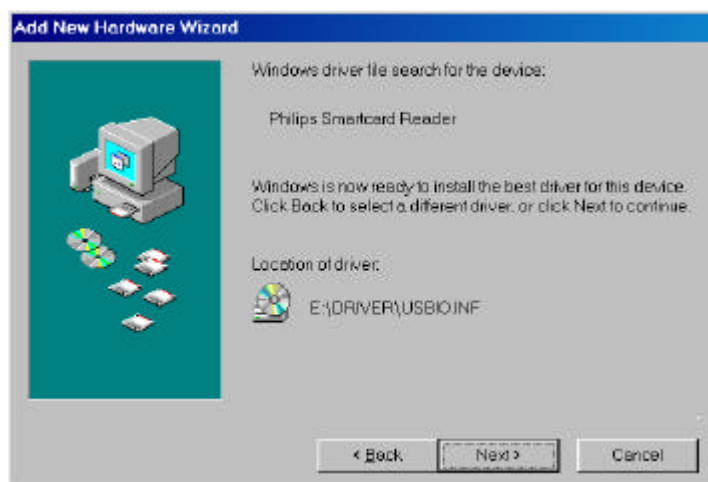
- To define the directory you have to insert the path for the USB driver or to specify the directory by using the BROWSE-Button. Please select the USB driver to finish the installation. On the delivered CD the required file is stored in the directory "Driver".



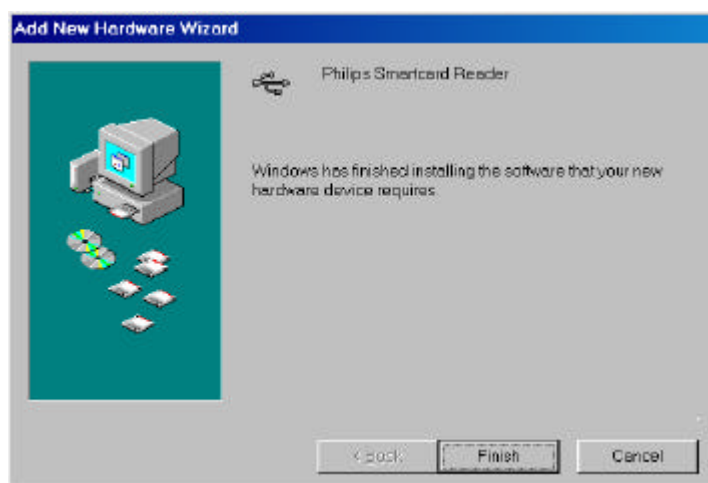
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- After directory selection you can go on with the installation by pressing the **Next** button.



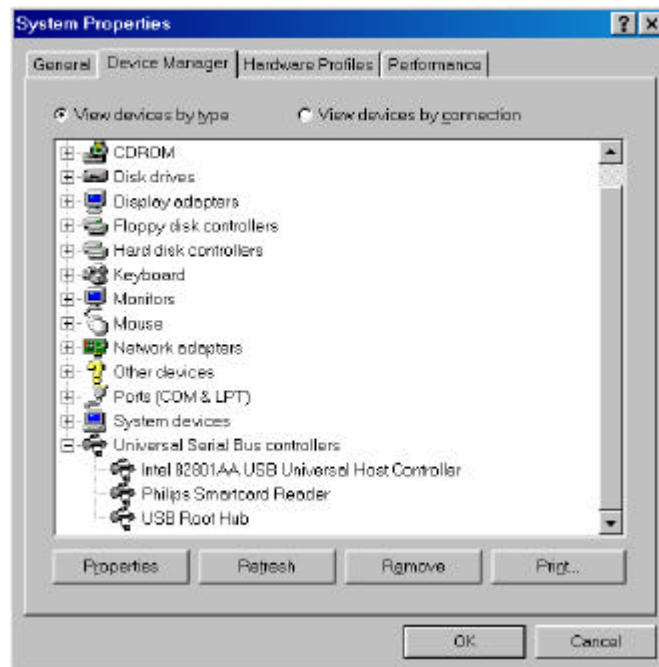
- . Installation of the USB driver has been finished. Please press **Finish**.



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- Having successfully installed the driver you can control the installation by selecting the **System Icon** in your **Control Panel** under **System Properties**. Within the sheet Device Manager under Universal Serial Bus controller you should find **Philips Smartcard Reader**.



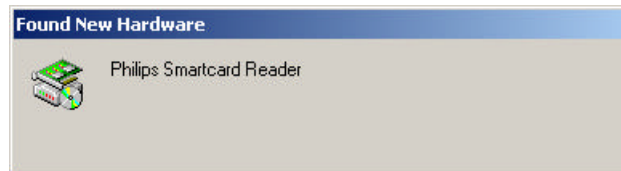
- Now your I•CODE Pegoda is ready for work. If you plug off your I•CODE Pegoda, the entry in the USB **Serial Bus controller's** list will disappear. Having plugged in your read/write device again the logon is done automatically without further interaction of the user.

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1.4.1.2 Windows 2000

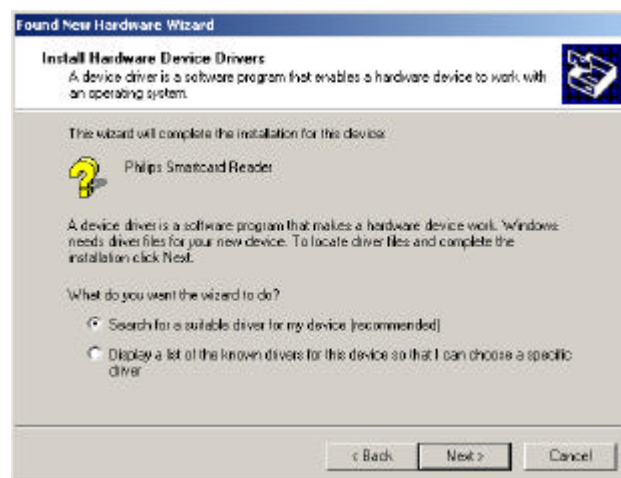
- Having connected the I²CODE Pegoda to the PC using Windows2000 as operating system a message is visible that a new hardware component is detected.



- To continue the installation of the corresponding driver for the new read/write device please press **Next**.



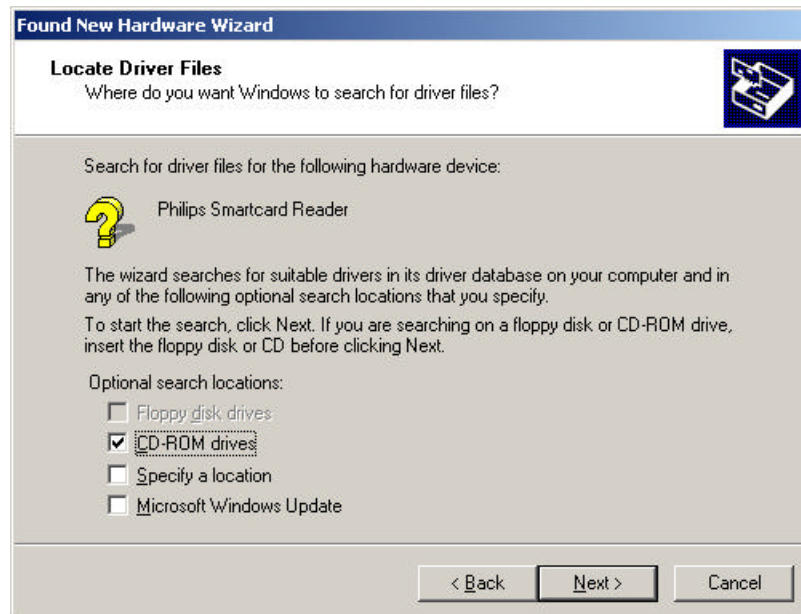
- Select the first choice 'Search for a suitable driver' - and press **Next**.



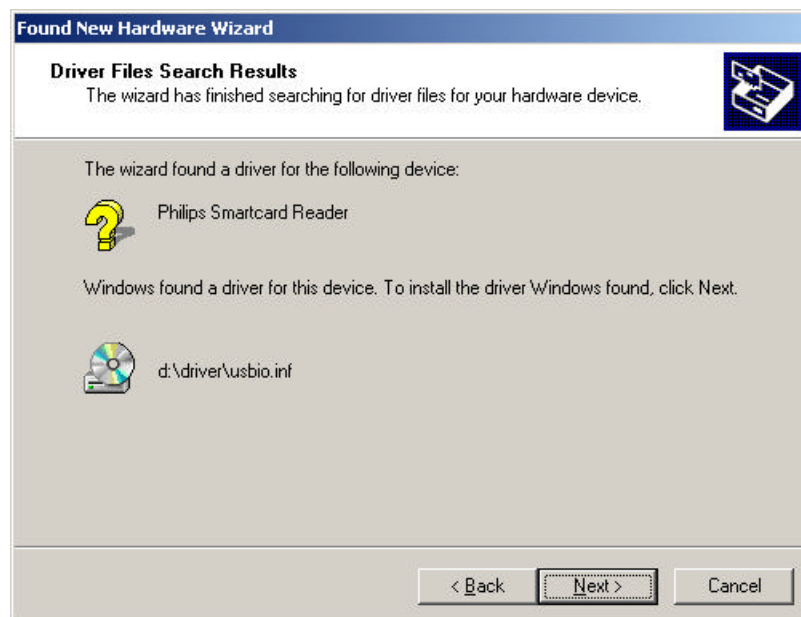
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- Select your preferred installation medium (CD-ROM) and press the **Next** button. The required driver file **usbio.inf** is stored on the delivered CD within the directory "Driver"



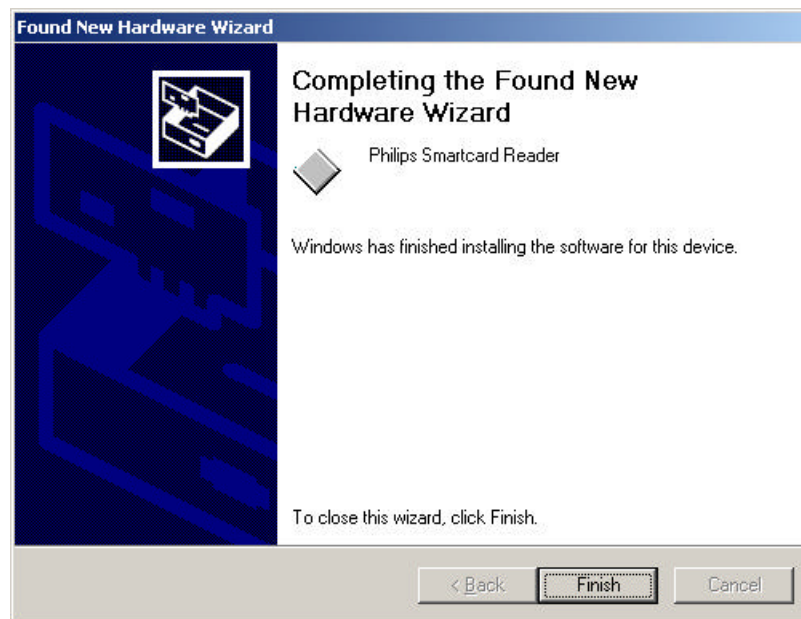
- After pressing the **Next** button the driver will be found automatically on the CD.



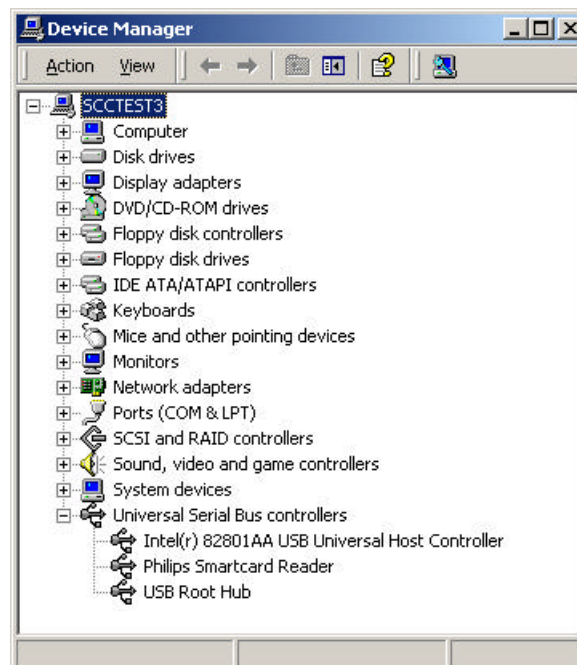
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- Continue with the **Next** button to install the driver.



- Press the **Finish** button to finalise the installation
- To check if the driver is installed correctly open the Device Manager within **Control Panel – System – Hardware**.



- Plugging off your I•CODE Pegoda, the entry in the USB **Serial Bus controller** list will disappear. After plugging in, your I•CODE Pegoda will logon automatically without further interaction of the user.

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1.4.2 EXPLORING THE CD

To view the documents on this CD-ROM, you have to install the Adobe Acrobat Reader first, found in the folder or directory called **Acrobat** at the root level of the CD.

In this directory, you can select the appropriate Adobe Acrobat Reader for your operating system. Please follow the installation instructions for the selected package.

To install the Acrobat Reader at your hard drive, double click on the single executable in the directory called **rp500enu.exe**.

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2 CONTENT OF THE PEGODA CD

The content of the I•CODE Pegoda CD ROM can be divided in several parts:

Folder Name	Content, short description
Applications	SL EV400Demo, a Windows based demonstration program
PC Development	needed PC libraries to design an own application based on the I•CODE Pegoda: CommonLibs : describing a common used library for error handling SLRC400 : DLLs and header files how to communicate to the Pegoda read/write device HostRDCom : defines the communication using the different serial interfaces RD700 : I•CODE Pegoda specific DLLs (compatible to the MIFARE Pegoda specific DLL for the MF EV700/800)
Documentation	Complete description of the I•CODE Pegoda itself
Driver	USB driver
Getting started	Documentation and basic function libraries for the SL RC400, giving the possibility to design in the SL RC 400

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3 GENERAL CONDITIONS

3.1 Usage

You may use the source codes contained on this CD for the development of free and/or commercially sold applications. You may also modify the source codes. We do not warrant that the functions contained in the source codes will meet your requirements or that the software operation will be uninterrupted or error free. The codes are only examples to show the usage of the hardware. They are not optimised in terms of speed or code size. The entire risk as to the results and performance of the codes is assumed by you.

3.2 The AS IS paragraphs

Please note that Philips hereby state that this package is provided "AS IS". Philips reserves the right to make changes without notice at any time. Philips makes no warranty, expressed, implied or statutory, including but not limited to any implied warranty of merchantability or fitness for any particular purpose, or that the use will not infringe any third party patent, copyright or trademark. Philips must not be liable for any loss or damage arising from its use.

3.3 USB Driver

The I•CODE Pegoda uses the USB driver developed for the MIFARE® Pegoda reader.
The USB driver itself was developed by

DATASOFT ISDN Systems GmbH,
Schillerplatz 3,
A- 3100 St.Pölten,
Austria.

The licensing conditions cover only the use of this driver in combination with PHILIPS Pegoda products. For customer application support regarding the USB Driver please contact DATASOFT ISDN Systems GmbH directly.

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4 COPYRIGHTS

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Windows98 and Windows2000 are trademarks of Microsoft.

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5 REVISION HISTORY

REVISION	DATE	CPCN	PAGE	DESCRIPTION
1.0	November	-		first published version

Table 5-1: Document Revision History

Definitions

Data sheet status	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
Limiting values	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics section of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.	
Application information	
Where application information is given, it is advisory and does not form part of the specification.	

Life support applications

These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Philips customers using or selling these products for use in such applications do so on their own risk and agree to fully indemnify Philips for any damages resulting from such improper use or sale.

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