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**Electrical safety –
Classification of interfaces for equipment
to be connected to information and communications
technology networks
C/TR 62102:2001**

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Foreword

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Endorsement notice

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Annex ZA



Normative references to international publications
with their corresponding European publications

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INTRODUCTION

This technical report is a guide to the determination of the interface requirements for equipment in terms of safety. It lists a number of interfaces and indicates the safety category of each listed interface. This technical report does not contain sufficient detail for conformance testing purposes, except when used in conjunction with product standards such as IEC 60950.

The equipment safety standard IEC 60950 specifies the requirements for categories of circuits as **SELV circuits**, **TNV circuits** and **hazardous voltage circuits** (among others). For stand-alone equipment it is a relatively simple matter to determine the different categories of circuits. However, an equipment which has data port interfaces is intended to be connected to other equipment, either locally or via a network. In this case, the safety categories of the interfaces which will be connected together have to be compatible with each other. Furthermore, the category of the interface of the remote equipment may be unknown. This is the case in systems where telecommunication equipment and data processing equipment are connected together via different types of interfaces and networks.

To overcome this situation it is necessary to classify the interfaces of equipment in such configurations according to the application and to select the safety category for the interfaces of the equipment and for the type of the network. Similarly, the interfaces have to be classified for protection against damage of the equipment and of the network. Aspects of protection are dealt with in the ITU-T K series of Recommendations.



ELECTRICAL SAFETY – CLASSIFICATION OF INTERFACES FOR EQUIPMENT TO BE CONNECTED TO INFORMATION AND COMMUNICATIONS TECHNOLOGY NETWORKS

1 Scope

This technical report applies to equipment interfaces. These interfaces within the equipment may be connected to **telecommunication networks**, they may form part of the **telecommunication network** infrastructure or they may provide localized transfer of data. This technical report provides guidance on the classification of interfaces in accordance with the circuit types defined in IEC 60950 following an analysis of the **telecommunication network** characteristics.

This technical report only covers equipment appropriately interconnected. Furthermore, it does not address damage caused by one equipment to another equipment to which it is connected. Exceptionally, interfaces may be designed for higher or lower levels for special applications. In such cases it should be ensured that only interfaces having the same safety category and protection level are connected together. This is based on the available specifications of the equipment manufacturers and network providers, and on information regarding the installation category of the mains interface.

This technical report is intended to be used by equipment designers, network operators, network regulators/authorities, standards writers and network installers. It is applicable to various interfaces of equipment. Network presentations are not equipment and so are not covered by IEC 60950; hence they are also not covered by this technical report. However, it is necessary to consider the characteristics, installation and presentation of **telecommunication networks** when determining what equipment interface requirements apply (e.g. **SELV circuit**, **TNV-1 circuit**, **TNV-2 circuit**, **TNV-3 circuit** etc.).

If a standard other than IEC 60950 is used for designing the equipment and its interface (e.g. IEC 62151 in conjunction with other product safety standards), then the corresponding requirements of these other standards are to be preferred.

If there is a conflict between this technical report and a more detailed specification, the latter prevails.

This technical report applies regardless of ownership or responsibility for installation and maintenance of the equipment or network.

NOTE Terminal equipment is often connected to customer premises cabling when used in a business environment, and there are standards covering such cabling.

2 Reference documents

IEC Guide 112, *Guide on the safety of multimedia equipment*

IEC 60065, *Audio, video and similar electronic apparatus – Safety requirements*

IEC 60364 (all parts), *Electrical installation of buildings*

IEC 60664-1, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*