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KONSOLIDEERITUD TEKST**

Safety of machinery - Two-hand control devices -  
Functional aspects - Principles for design  
CONSOLIDATED TEXT

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 574:1999+A1:2008 sisaldab Euroopa standardi EN 574:1996+A1:2008 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 18.08.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 25.06.2008.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 574:1999+A1:2008 consists of the English text of the European standard EN 574:1996+A1:2008.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 18.08.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 25.06.2008.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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English Version

**Safety of machinery - Two-hand control devices - Functional aspects - Principles for design**

Sécurité des machines - Dispositifs de commande  
bimanuelle - Aspects fonctionnels - Principes de  
conception

Sicherheit von Maschinen - Zweihandschaltungen -  
Funktionelle Aspekte - Gestaltungsleitsätze

This European Standard was approved by CEN on 20 November 1996 and includes Amendment 1 approved by CEN on 18 May 2008.

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## Foreword

This document (EN 574:1996+A1:2008) has been prepared by Technical Committee CEN/TC 114 "Safety of machinery", the Secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2008, and conflicting national standards shall be withdrawn at the latest by December 2008.

This document includes Amendment 1, approved by CEN on 2008-05-18.

This document supersedes EN 574:1996.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1** and **A1**.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

**A1** For relationship with EU Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document. **A1**

This standard is a type B standard in the structure of A-/B-/C-standards as defined in EN 292.

Annex A of this standard is normative, whereas annexes B and C are informative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

## Introduction

This standard has been prepared to be a type B standard in the sense of the Machinery Directive (89/392/EEG) and associated EFTA regulations.

A two-hand control device is a safety device (safety component). It provides a measure of protection for the operator against reaching danger zones during hazardous situations by locating the control actuating devices in a specific position. For hand held machinery it should be taken into consideration that the danger zone is not stationary.

The selection of a two-hand control device as an appropriate safety device will depend upon the risk assessment made by designers, standard makers and others in accordance with EN 292-1 and EN 1050.

The definition of a two-hand control device is given in 3.1 and takes precedence over the definition in 3.23.4 of EN 292-1:1991.

In some arrangements enabling devices (see 3.23.2 of EN 292-1:1991) and/or hold-to-run devices (see 3.23.3 of EN 292-1:1991) may comply with the definition of a two-hand control device in this standard. Additionally, some special control devices - such as teach pendants for robots and some crane controls - require the use of two hands and can comply with the definition of a two-hand control device in this standard.

## 1 Scope

This standard specifies the safety requirements of a two-hand control device and its logic unit as defined in 3.1.

This standard describes the main characteristics of two-hand control devices for the achievement of safety and sets out combinations of functional characteristics for three types. This standard does not apply to devices intended to be used as enabling devices, hold to run devices and as special control devices.

This standard does not specify with which machines two-hand control devices shall be used. It also does not specify which types of two-hand-control device shall be used. Moreover it does not specify the distance between the two-hand control device and the danger zone (see 9.8).

The standard provides requirements and guidance on the design and selection (based on a risk assessment) of two-hand control devices including their assessment, the prevention of defeat and the avoidance of faults. The standard also provides requirements and guidance for two-hand control devices containing a programmable electronic system (see 7).

This standard applies to all two-hand control devices, independent of the energy used, including:

- Two-hand control devices which are or are not integral parts of a machine;
- Two-hand control devices which consist of one or more than one separate elements.

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed in this clause. For dated references, subsequent amendments to or revisions of any of these publications only apply to this European Standard when incorporated. For undated references, the latest edition of the publication applies.

EN 292-1:1991, *Safety of machinery, basic concepts, general principles for design — Part 1: Basic terminology, methodology*.

EN 292-2:1991/A1:1995, *Safety of machinery, basic concepts, general principles for design — Part 2: Technical principles and specifications*.

prEN 894-1:1992, *Safety of machinery, ergonomics requirements for the design of displays and control actuators – Part 1: Human interactions with displays and control actuators*.

prEN 894-2:1992, *Safety of machinery, ergonomics requirements for the design of displays and control actuators – Part 2: Displays*.

prEN 894-3:1992, *Safety of machinery, ergonomics requirements for the design of displays and control actuators – Part 3: Control actuators*.

EN 954-1:1996, *Safety of machinery, safety related parts of control systems — Part 1: General principles for design*.

prEN 999:1995, *Safety of machinery, the positioning of protective equipment in respect of approach speeds of parts of the human body*.

EN 1050:1996, *Safety of machinery, principles for risk assessment*

EN 60204-1:1992, *Safety of machinery, electrical equipment of machines – Part 1: General requirements*.

## 3 Definitions

For the purposes of this standard, the following definitions apply:

### 3.1

#### **two-hand control device**

a device which requires at least simultaneous actuation by the use of both hands in order to initiate and to maintain, whilst a hazardous condition exists, any operation of a machine thus affording a measure of protection only for the person who actuates it (see figure 1)