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Australian Standard®

# Safety of machinery

# Part 2601: Design of controls, interlocks and guarding—Two-hand control devices—Functional aspects and design principles



This Australian Standard® was prepared by Committee SF-041, General Principles for the Guarding of Machinery. It was approved on behalf of the Council of Standards Australia on 18 June 2008.
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The following are represented on Committee SF-041:

- Australian Chamber of Commerce and Industry
- Australian Electrical and Electronic Manufacturers Association
- Department for Administration and Information Services, SA
- Department of Consumer and Employment Protection, WorkSafe Division, WA
- Department of Industrial Relations, Qld
- Department of Primary Industries, Mine Safety, NSW
- Engineers Australia
- Federal Chamber of Automotive Industries
- Human Factors and Ergonomics Society of Australia
- Institute of Instrumentation, Control and Automation Australia
- National Electrical and Communications Association
- National Safety Council of Australia
- Office of the Australian Safety and Compensation Council
- Safety Institute of Australia
- Tractor and Machinery Association of Australia
- University of Melbourne
- Victorian WorkCover Authority

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This Standard was issued in draft form for comment as DR 07432.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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# Part 2601: Design of controls, interlocks and guarding—Two-hand control devices—Functional aspects and design principles

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# PREFACE

This Standard was prepared by Standards Australia Committee SF-041, General Principles for the Guarding of Machinery.

It is one of a series of Standards dealing with aspects of safety of machinery. Not all companies and individuals using machinery will need this part of the series.

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.

In common with other Parts of AS 4024, this Standard is based upon documents originating within the European Community in the field of safety of machinery. Many of these European Standards are being adopted virtually unchanged as International Standards by the International Organization for Standardization (ISO) and the Committee has agreed to continue to use material emanating from both CEN and ISO.

This Standard is technically equivalent to ISO 13851, *Safety of machinery—Two-hand control devices—Functional aspects and design principles*.

The term 'normative' has been used in this Standard to define the application of the appendix to which it applies. A 'normative' appendix is an integral part of a Standard.

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## Part 2601: Design of controls, interlocks and guarding—Two-hand control devices—Functional aspects and design principles

### 1 SCOPE

This Standard specifies the safety requirements of a two-hand control device and the dependency of the output signal on the input signals.

This Standard provides requirements and guidance on the design and selection (based on a risk assessment in accordance with AS 4025.1301) of two-hand control devices including their assessment, the prevention of defeat and the avoidance of faults. It also provides requirements and guidance for two-hand control devices containing a programmable electronic system (see Clause 8).

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

(a) two-hand control devices which are or are not integral parts of a machine; and

(b) two-hand control devices which consist of one or more than one separate element.

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. It does not apply to devices intended to be used as enabling devices, such as hold-to-run devices or as special control devices.

This Standard does not specify with which machines two-hand control devices may be used. It also does not specify which types of two-hand-control device may be used. Moreover, it does not specify the distance between the two-hand control device and the danger zone (see Clause 10.8).

### 2 OBJECTIVE

The objective of this Standard is to provide designers, manufacturers, suppliers and installers of two-hand control devices with the technical means of minimizing risks to the health and safety of machine operators working with or otherwise near machinery fitted with two-hand controls.

### 3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard.

| | |
|---|---|
| AS | |
| 4024 | Safety of machinery |
| 4024.1201 | Part 1201: General principles—Basic terminology and methodology |
| 4024.1202 | Part 1202: General principles—Technical principles |
| 4024.1301 | Part 1301: Risk assessment—Principles of risk assessment |
| 4024.1501 | Part 1501: Design of safety related parts of control systems—General principles for design |
| 4024.1502 | Part 1502: Design of safety related parts of control systems—Validation |

 