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**Ergonomic requirements for the design  
of displays and control actuators —**

**Part 3:  
Control actuators**

*Spécifications ergonomiques pour la conception des dispositifs  
de signalisation et des organes de service —*

*Partie 3: Organes de service*



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Published in Switzerland

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 9355-3 was prepared by Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 4, *Ergonomics of human-system interaction*.

ISO 9355 consists of the following parts, under the general title *Ergonomic requirements for the design of displays and control actuators*:

- *Part 1: Human interactions with displays and control actuators*
- *Part 2: Displays*
- *Part 3: Control actuators*
- *Part 4: Location and arrangement of displays and control actuators*

# Ergonomic requirements for the design of displays and control actuators —

## Part 3: Control actuators

**SAFETY PRECAUTIONS** — It is particularly important that the provisions of this part of ISO 9355 be observed wherever the operation of a control actuator could lead to injury or damage to health, either directly or as a result of human error.

### 1 Scope

This part of ISO 9355 gives ergonomic requirements for, and guidance on, the selection, design and location of control actuators adapted to the needs of the operator, suitable for the control task in question and taking account of the circumstances of their use. It is applicable to manual control actuators used in equipment for both occupational and private use.

### 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 447, *Machine tools — Direction of operation of controls*

ISO 9355-1:1999, *Ergonomic requirements for the design of displays and control actuators — Part 1: Human interactions with displays and control actuators*

ISO 9355-2, *Ergonomic requirements for the design of displays and control actuators — Part 2: Displays*

IEC 60447, *Basic and safety principles for man-machine interface, marking and identification — Actuating principles*

### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

#### 3.1

##### **control actuator**

part of the control actuating system that is directly actuated by the operator, e.g. by applying pressure

[ISO 9355-1:1999, 3.1]