

# INTERNATIONAL STANDARD

**ISO**  
**11064-3**

First edition  
1999-12-15

---

---

## **Ergonomic design of control centres — Part 3: Control room layout**

*Conception ergonomique des centres de commande —  
Partie 3: Agencement de la salle de commande*



Reference number  
ISO 11064-3:1999(E)

© ISO 1999

**PDF disclaimer**

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

This document is a preview generated by EVS

© ISO 1999

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 734 10 79  
E-mail [copyright@iso.ch](mailto:copyright@iso.ch)  
Web [www.iso.ch](http://www.iso.ch)

Printed in Switzerland

**Contents**

	Page
<b>1</b> Scope .....	<b>1</b>
<b>2</b> Normative references .....	<b>1</b>
<b>3</b> Terms and definitions .....	<b>1</b>
<b>4</b> Ergonomic design of control centres .....	<b>5</b>
<b>4.1</b> Process for control room layout .....	<b>5</b>
<b>4.2</b> General considerations for control room layout .....	<b>6</b>
<b>4.3</b> Architectural/building recommendations .....	<b>9</b>
<b>4.4</b> Workstation arrangements .....	<b>13</b>
<b>4.5</b> Shared visual displays, off-workstation .....	<b>15</b>
<b>4.6</b> Personnel circulation and maintenance access .....	<b>17</b>
<b>Annex A:</b> Examples of control room layout .....	<b>22</b>
<b>Annex B:</b> Anthropometric data of the world population .....	<b>34</b>
<b>Bibliography</b> .....	<b>35</b>

## 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 3.

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 International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 11064-3 was prepared by Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 4, *Ergonomics of human-system interaction*.

ISO 11064 consists of the following parts, under the general title *Ergonomic design of control centres*:

- *Part 1: Principle for the design of control centres.*
- *Part 2: Principles of control suite arrangement*
- *Part 3: Control room layout*
- *Part 4: Workstation layout and dimensions*
- *Part 5: Displays and controls*
- *Part 6: Environmental requirements for control centres*
- *Part 7: Principles for the evaluation of control centres*
- *Part 8: Ergonomic requirements for specific applications*

Annexes A and B of this part of ISO 11064 are for information only.

## Introduction

This part of ISO 11064 establishes ergonomic requirements, recommendations and guidelines for control room layout.

User requirements are a central theme of this part of ISO 11064 and the processes described are designed to take account of needs of users at all stages. The overall strategy for dealing with the user requirements as strategy to be adopted for control room design is presented in ISO 11064-1.

ISO 11064-2 provides guidance on the design and planning of the control room in relation to its supporting areas. Requirements for the design of workstations, displays and controls and the physical working environment are presented in ISO 11064-4 to ISO 11064-6. Evaluation principles are dealt with in ISO 11064-7.

ISO 11064-1 to ISO 11064-7 cover general principles of ergonomic design appropriate to a range of industries and service providers. The specific requirements appropriate to particular sectors or applications areas are covered in ISO 11064-8. The requirements presented in ISO 11064-8 are to be read in conjunction with ISO 11064-1 to ISO 11064-7.

The ultimate beneficiaries of this part of ISO 11064 will be the control room operator and other users. It is the needs of these users that provide the ergonomic requirements used by the developers of International Standards. Although it is unlikely that the end user will read this part of ISO 11064, or even know of its existence, its application should provide the user with interfaces that are more usable and a working environment which is more consistent with operational demands. It should result in a solution which will minimize error and enhance productivity.

For determining design dimensions, the practice of providing formulae, into which appropriate user population data is inserted, is adopted. A table of anthropometric data is presented in annex B.

# Ergonomic design of control centres —

## Part 3: Control room layout

### 1 Scope

This part of ISO 11064 establishes ergonomic principles for the layout of control rooms. It includes requirements, recommendations and guidelines on control room layouts, workstation arrangements, the use of off-workstation visual displays and control room maintenance.

It covers all types of control centres, including those for the process industry, transport and dispatching systems in the emergency services. Although this part of ISO 11064 is primarily intended for non-mobile control centres, many of the principles could be relevant/applicable to mobile centres, such as those found on ships and aircraft.

### 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 11064. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 11064 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 7250:1996, *Basic human body measurements for technological design*.

ISO 9241-3:1992, *Ergonomic requirements for office work with visual display terminals (VDTs) — Part 3: Visual display requirements*.

ISO 9241-5:1998, *Ergonomic requirements for office work with visual display terminals (VDTs) — Part 5: Workstation layout and postural requirements*.

ISO 11428:1996, *Ergonomics – Visual danger signals – General requirements, design and testing*.

### 3 Terms and definitions

For the purposes of this part of ISO 11064, the following terms and definitions apply.

NOTE To assist with the interpretation of these definitions, descriptive Figures 1 and 2 are included in this clause.

#### 3.1

##### **control centre**

combination of control rooms, control suites and local control stations which are functionally related and all on the same site (see Figure 1)