



BSI Standards Publication

Cranes — Control layout and characteristics

Part 5: Bridge and gantry cranes

INTERNATIONAL
STANDARD

ISO
7752-5

Second edition
2021-06

**Cranes — Control layout and
characteristics —**

Part 5:
Bridge and gantry cranes

*Appareils de levage — Organes de service — Disposition et
caractéristiques —*

Partie 5: Ponts roulants et ponts portiques



Reference number
ISO 7752-5:2021(E)

© ISO 2021



COPYRIGHT PROTECTED DOCUMENT

© ISO 2021

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 General requirements	1
Annex A (informative) Examples for basic control arrangement	2

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 96, *Cranes*, Subcommittee SC 9, *Bridge and gantry cranes*.

This second edition cancels and replaces the first edition (ISO 7752-5:1985), which has been technically revised.

The main and minor changes compared to the previous edition are as follows:

- in the Scope, "cab driving" has been changed to "cab movement";
- old [Clause 4](#) has been moved to [Annex A](#);
- old subclause 4.2 has been removed;
- the word "driver" has been changed to "operator" to reflect the terminology used in ISO 7752-1;
- new [Clause 3](#) Terms and definitions has been added;

A list of all parts in the ISO 7752 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

To reduce operator confusion or their incorrect control movement, this document unifies controls for certain types of cranes.

ISO 7752-1 establishes the general principles for all kinds of cranes.

Cranes — Control layout and characteristics —

Part 5: Bridge and gantry cranes

1 Scope

This document establishes the arrangement, requirements and direction of movement of the basic controls for travelling, traversing, slewing, cab movement and load hoisting and lowering operations for all cab-operated, overhead travelling cranes and portal bridge cranes, as defined in ISO 4306-1 and ISO 4306-5.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 4306-1, *Cranes — Vocabulary — Part 1: General*

ISO 4306-5, *Cranes — Vocabulary — Part 5: Bridge and gantry cranes*

ISO 7752-1, *Cranes — Control layout and characteristics — Part 1: General principles*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4306-1, ISO 4306-5 and ISO 7752-1 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

4 General requirements

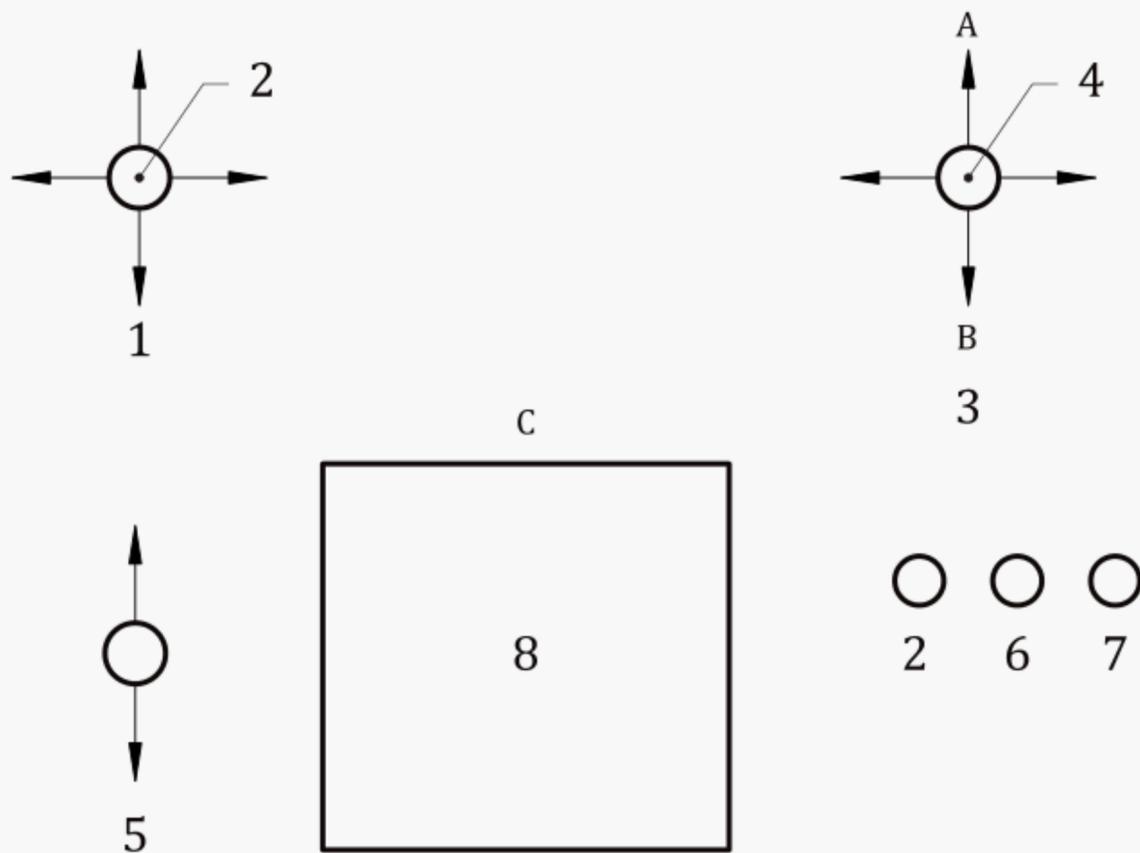
The controls for the crane shall comply with ISO 7752-1.

NOTE [Annex A](#) provides examples of basic control arrangements.

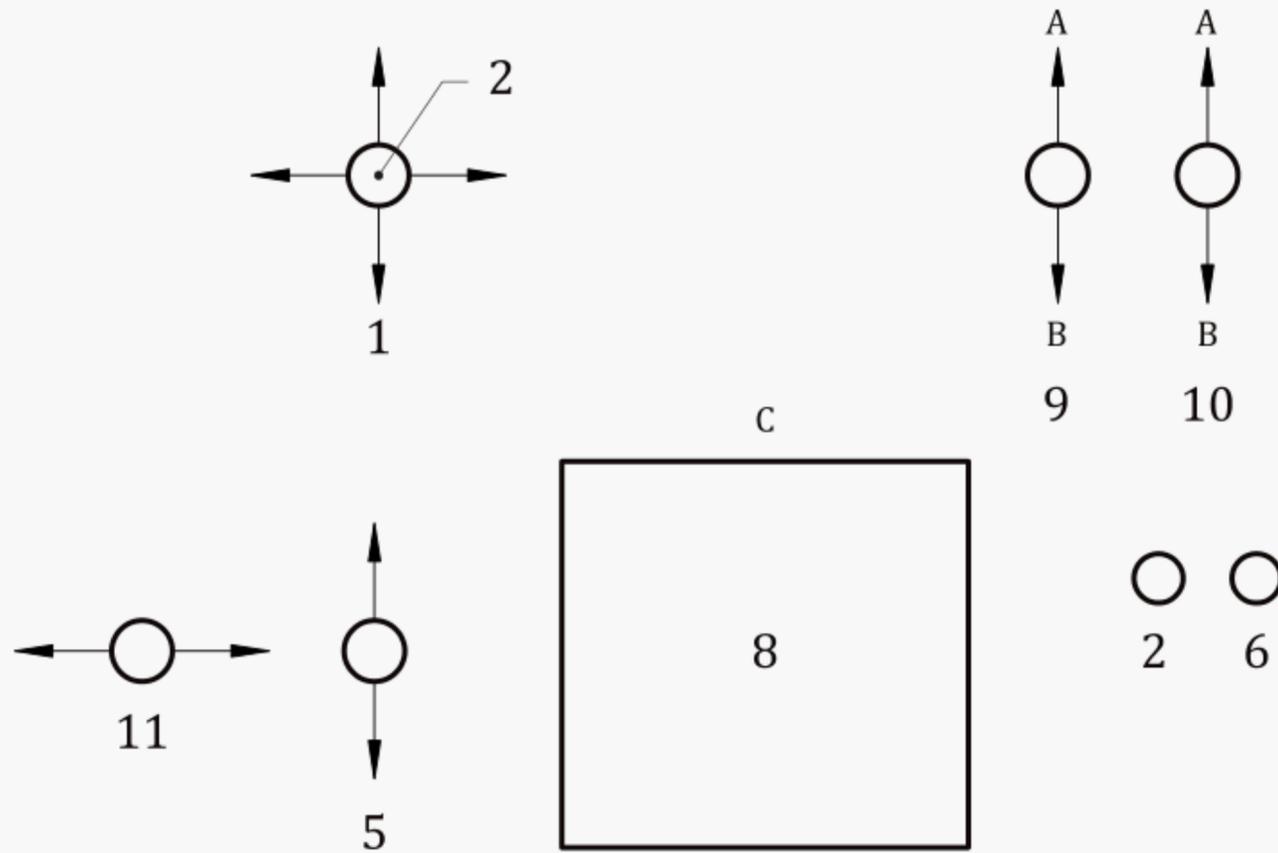
Annex A (informative)

Examples for basic control arrangement

Cabin controls, remote control and radio control, when applicable, should be arranged around and in front of the operator as shown from [Figure A.1](#) to [Figure A.10](#).



a) Overhead travelling crane, Portal bridge crane, semi-portal bridge crane

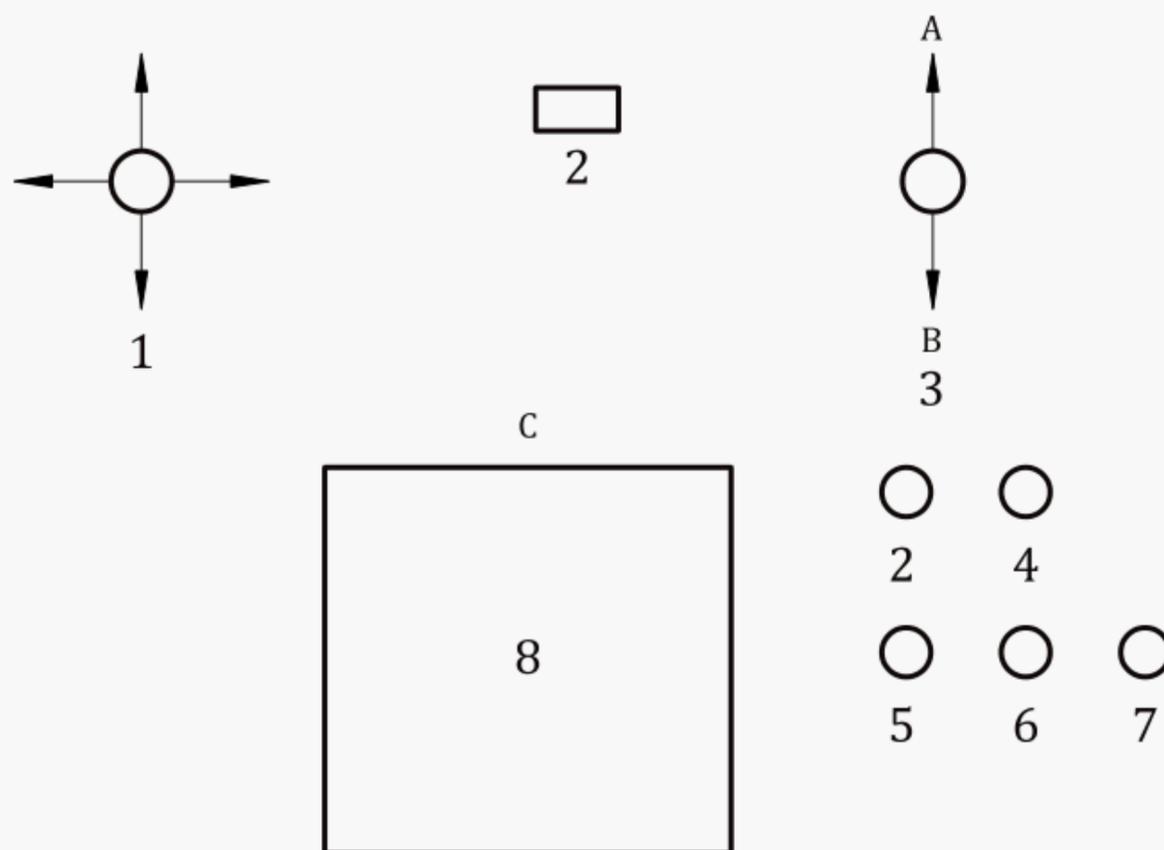


b) Overhead travelling crane, Portal bridge crane, semi-portal bridge crane with tilting hoist

Key

- 1 travelling and traversing [handle (joy stick) directions are the same as directions of movements]
- 2 alarm (in handle of joy stick, alternative locations)
- 3 main hoist and slewing [handle (joy stick) directions are the same as directions of movements]
- 4 radio 2 way (in handle of joy stick)
- 5 cab movement [handle (joy stick) directions are the same as directions of movements]
- 6 emergency stop
- 7 hoist selector where multiple hoists/trolleys are fitted
- 8 operator
- 9 main hoist
- 10 auxiliary hoist
- 11 slewing [handle (joy stick) directions are the same as directions of movements]
- A lower
- B raise
- C front

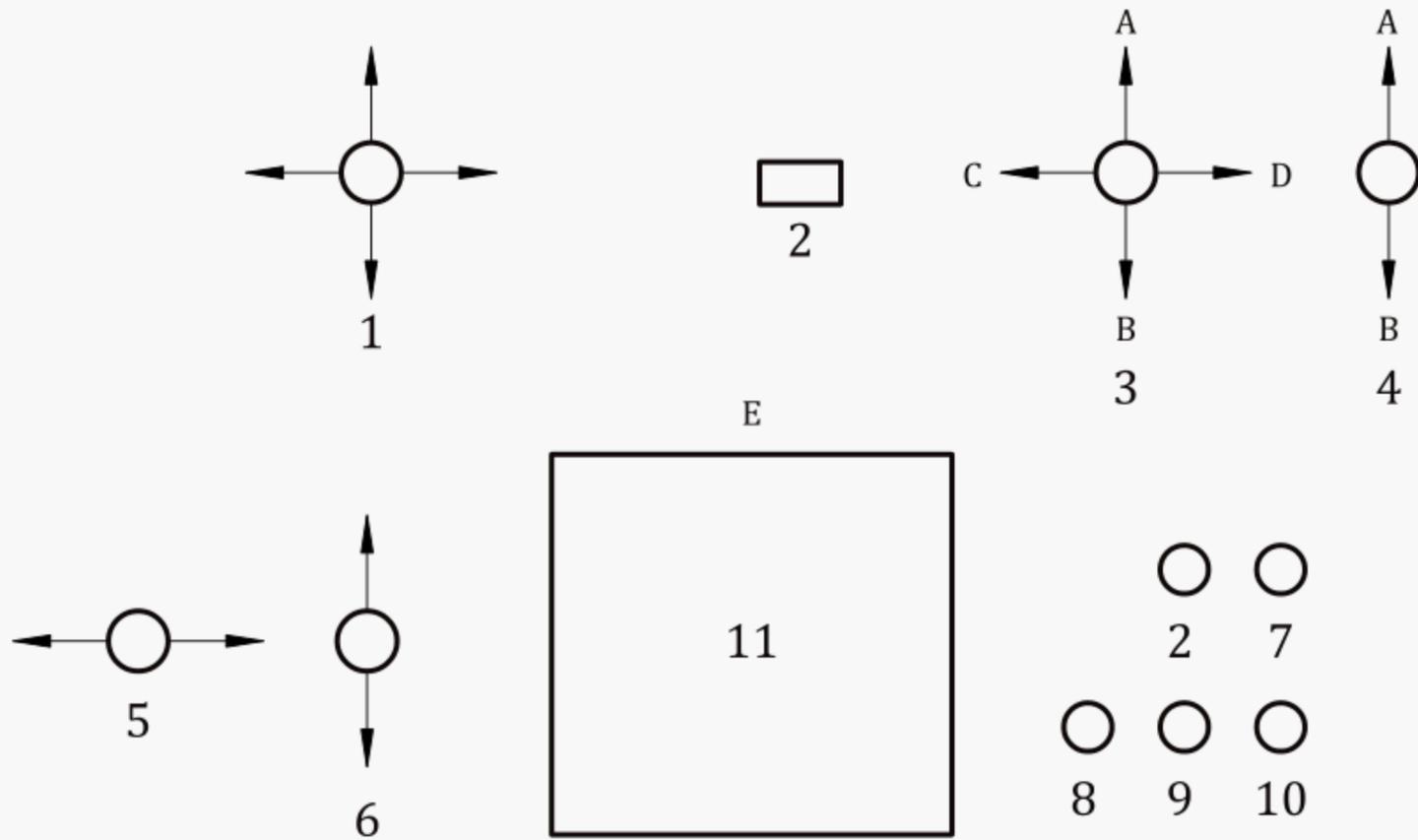
Figure A.1 — Basic control arrangement 1 a) and 1 b)



Key

- 1 travelling and traversing [handle (joy stick) directions are the same as directions of movements]
- 2 alarm (alternative locations)
- 3 hoist
- 4 emergency stop
- 5 boom up
- 6 boom stop
- 7 boom down
- 8 operator
- A lower
- B raise
- C front

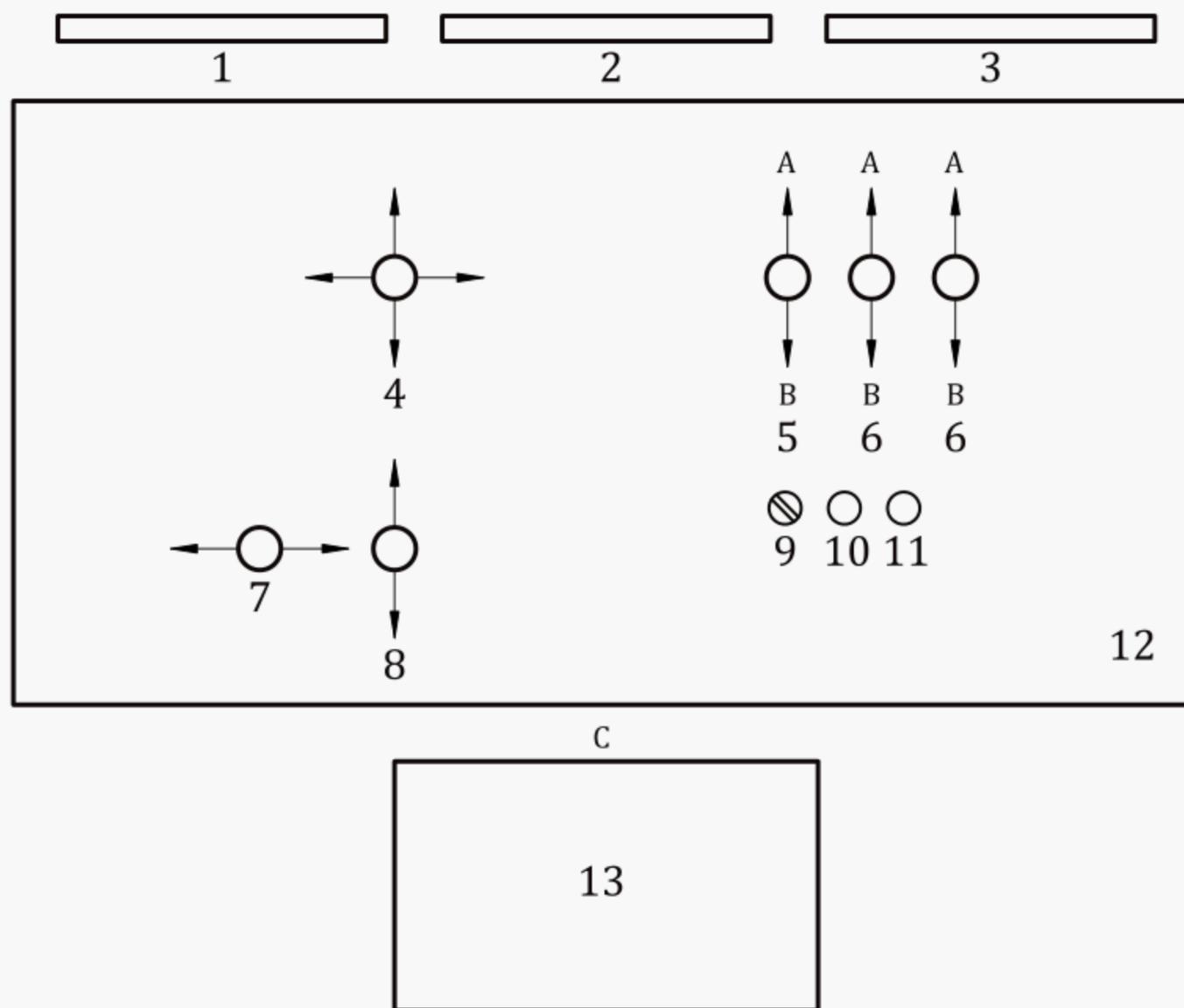
Figure A.2 — Basic control arrangement 2 — Dual (Single) hoist ship-to-shore container crane



Key

- 1 travelling and traversing [handle (joy stick) directions are the same as directions of movements]
- 2 alarm (alternative locations)
- 3 main hoist
- 4 auxiliary hoist (optional)
- 5 slewing [handle (joy stick) directions are the same as directions of movements (optional)]
- 6 cab movement [handle (joy stick) directions are the same as directions of movements]
- 7 emergency stop
- 8 boom up
- 9 boom stop
- 10 boom down
- 11 operator
- A lower
- B raise
- C grab close (or other load-handling device function)
- D grab open
- E front

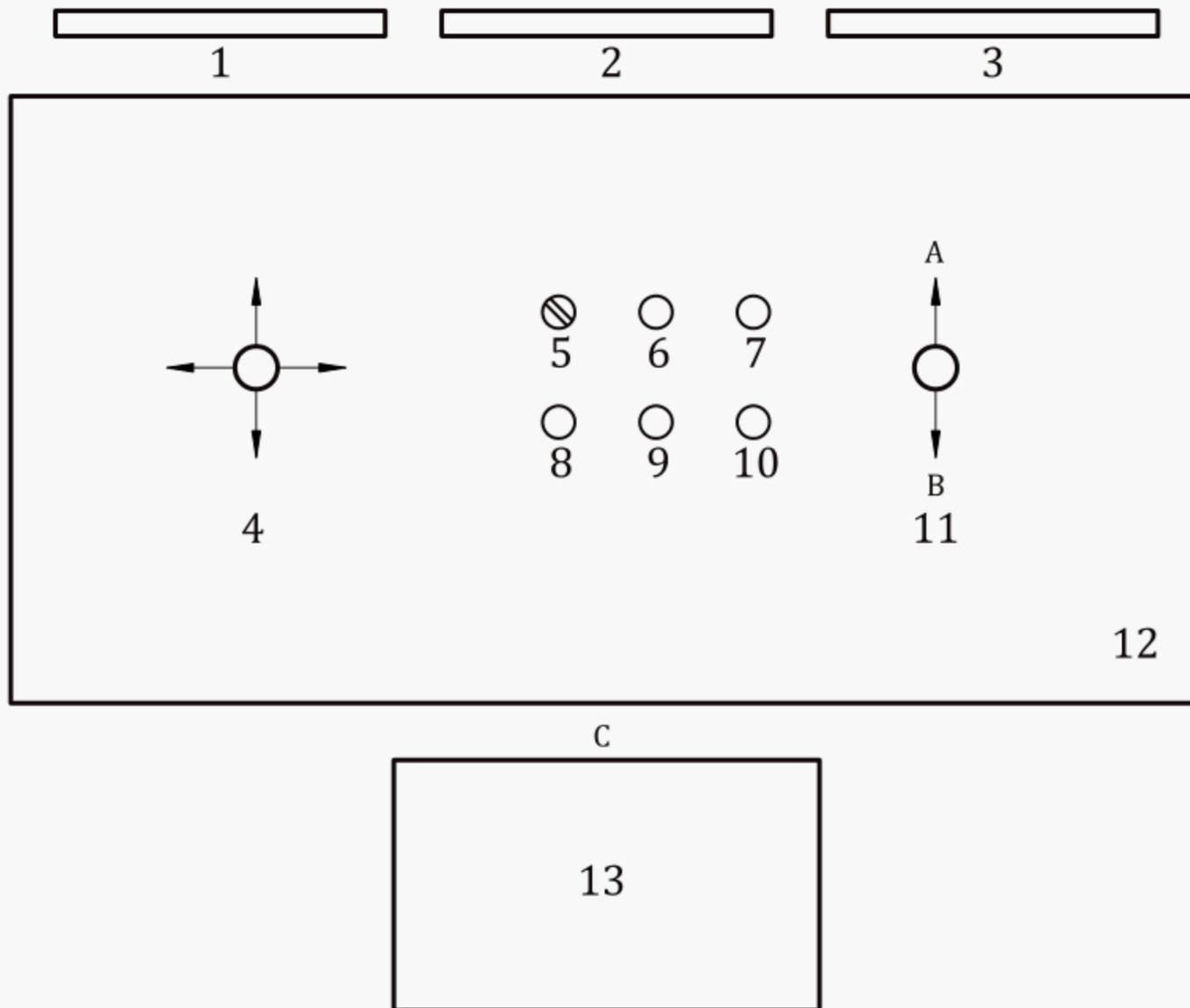
Figure A.3 — Basic control arrangement 3 — Bridge type grab ship unloader



Key

- 1 crane management system (CMS)
- 2 video display (detail view)
- 3 video display (crane general view)
- 4 travelling and traversing
- 5 main hoist
- 6 auxiliary hoist (optional)
- 7 slewing [handle (joy stick) directions are the same as directions of movements (optional)]
- 8 cab movement [handle (joy stick) directions are the same as directions of movements]
- 9 auto/manual
- 10 alarm
- 11 emergency stop
- 12 desk
- 13 operator
- A lower
- B raise
- C front

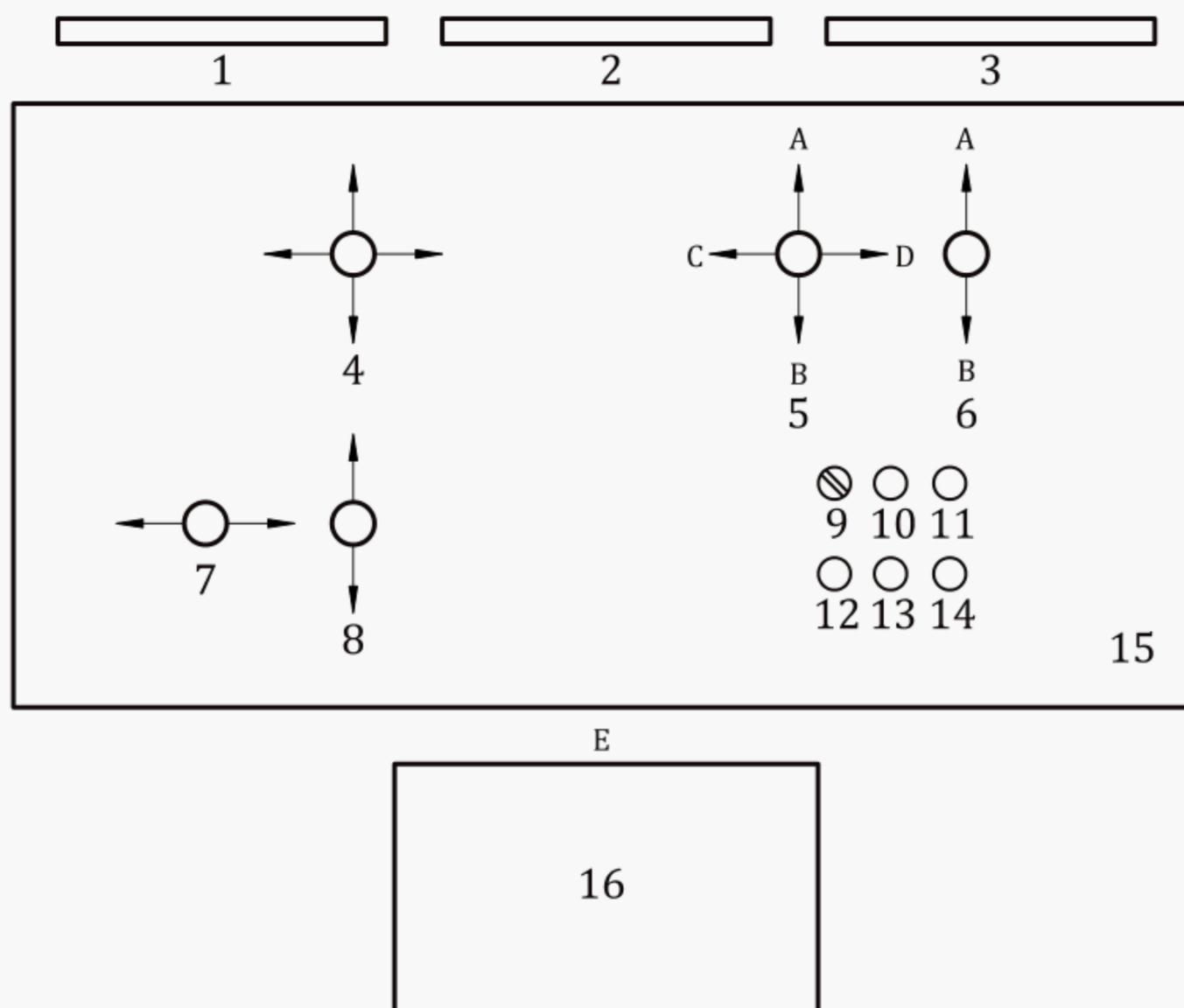
Figure A.4 — Basic control arrangement 4 — Remote (overhead travelling crane, portal bridge crane, semi-portal bridge crane)



Key

- 1 crane management system (CMS)
- 2 video display (spreader twistlock view)
- 3 video display (crane general view)
- 4 travelling and traversing
- 5 auto/manual
- 6 alarm
- 7 emergency stop
- 8 boom up
- 9 boom stop
- 10 boom down
- 11 hoist
- 12 desk
- 13 operator
- A lower
- B raise
- C front

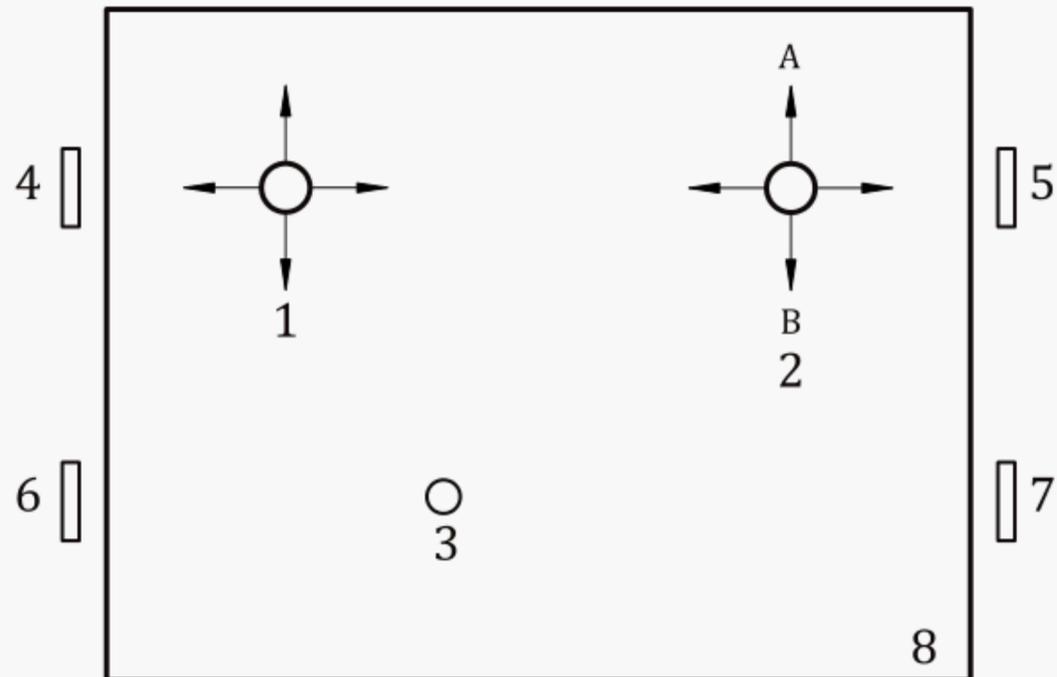
Figure A.5 — Basic control arrangement 5 — Remote [dual (single) hoist ship-to-shore container crane]



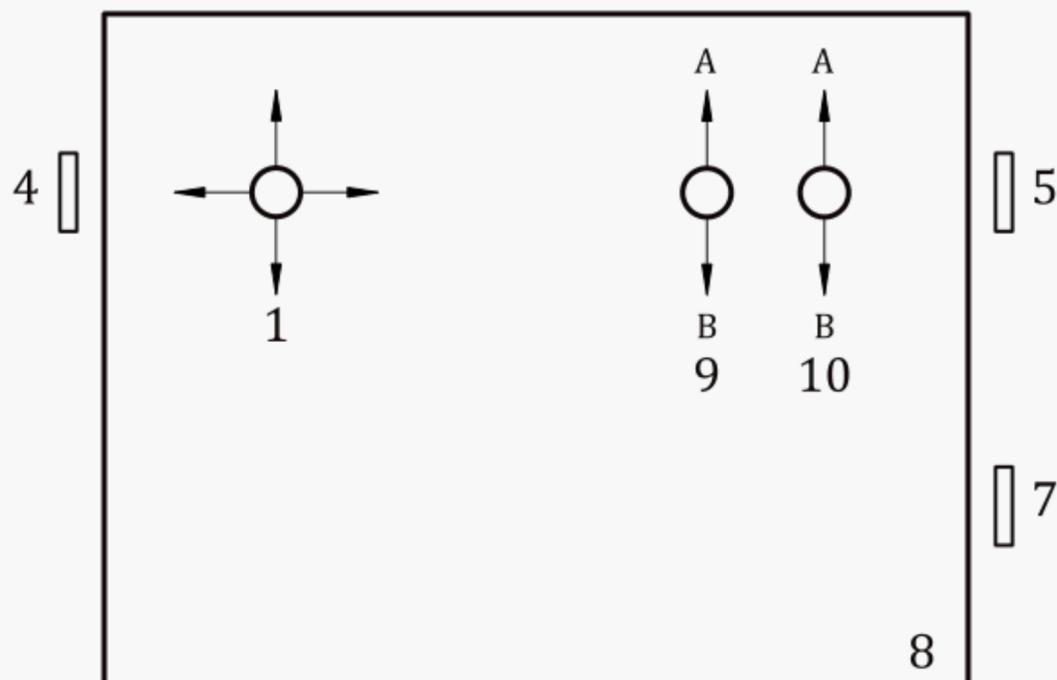
Key

- 1 crane management system (CMS)
- 2 video display (detail view)
- 3 video display (crane general view)
- 4 travelling and traversing
- 5 main hoist
- 6 auxiliary hoist (optional)
- 7 slewing [handle (joy stick) directions are the same as directions of movements (optional)]
- 8 cab movement [handle (joy stick) directions are the same as directions of movements]
- 9 auto/manual
- 10 alarm
- 11 emergency stop
- 12 boom up
- 13 boom stop
- 14 boom down
- 15 desk
- 16 operator
- A lower
- B raise
- C grab close (or other load handling device function)
- D grab open
- E front

Figure A.6 — Basic control arrangement 6 — Remote (bridge type grab ship unloader)



a) Radio (overhead travelling crane, portal bridge crane, semi-portal bridge crane)

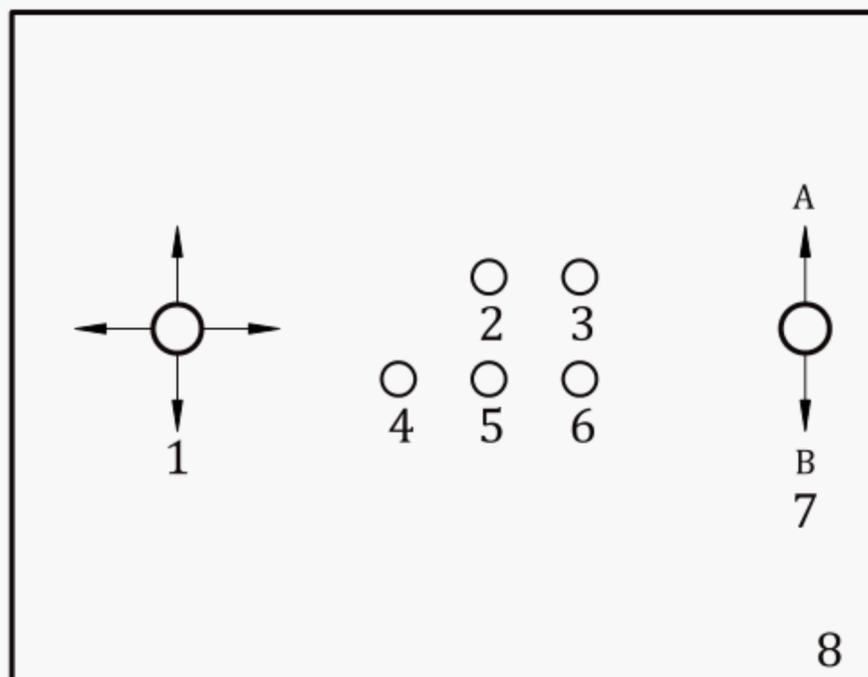


b) Radio (portal bridge crane, semi-portal bridge crane) with tilting hoist

Key

- 1 travelling and traversing
- 2 main hoist and slewing (or grab)
- 3 hoist selector (stay put) and hoist combination selector
- 4 alarm
- 5 start
- 6 additional (safety) grab open
- 7 emergency stop
- 8 radio control housing
- 9 main hoist
- 10 auxiliary hoist (tilting hoist)
- A lower
- B raise

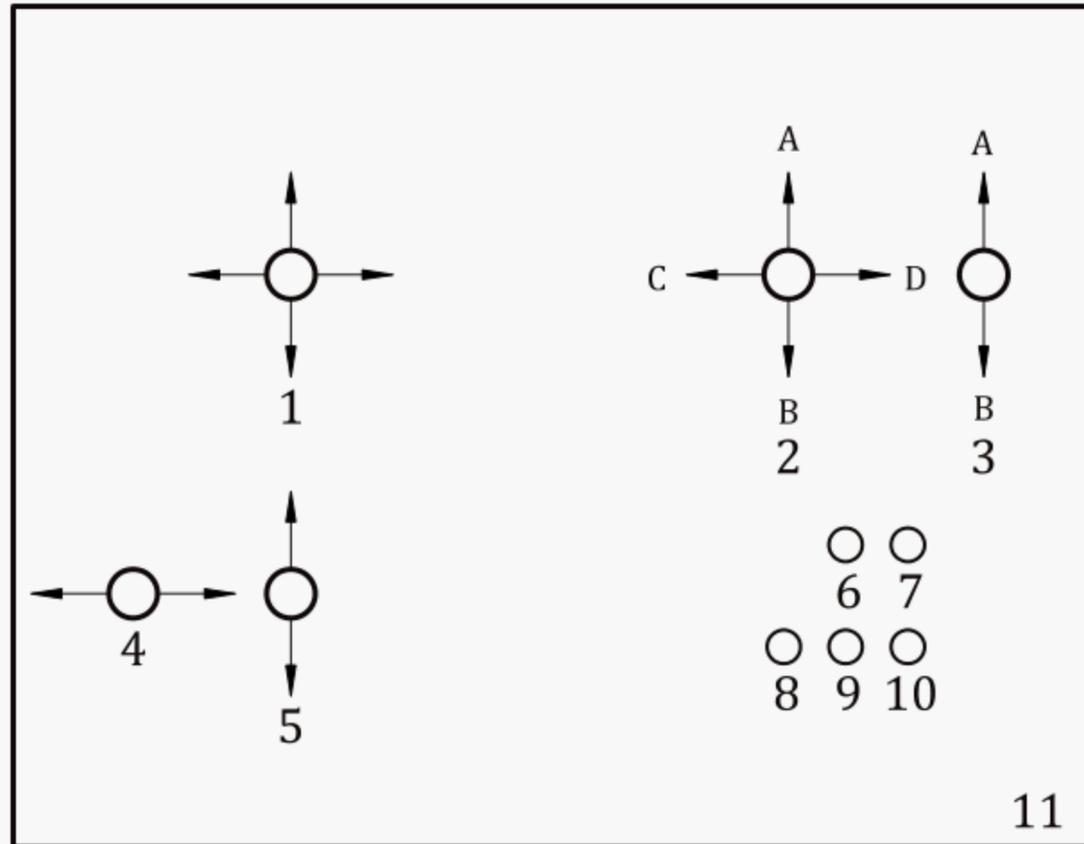
Figure A.7 — Basic control arrangement 7 — Radio



Key

- 1 travelling and traversing
- 2 alarm
- 3 emergency stop
- 4 boom up
- 5 boom stop
- 6 boom down
- 7 hoist
- 8 radio control housing
- A lower
- B raise

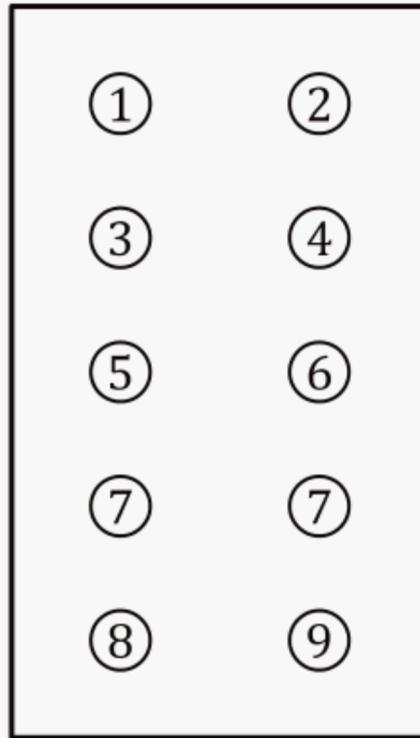
Figure A.8 — Basic control arrangement 8 — Radio [dual (single) hoist ship-to-shore container crane]



Key

- 1 travelling and traversing
- 2 main hoist
- 3 auxiliary hoist (optional)
- 4 slewing [handle (joy stick) directions are the same as directions of movements (optional)]
- 5 cab movement [handle (joy stick) directions are the same as directions of movements]
- 6 alarm
- 7 emergency stop
- 8 boom up
- 9 boom stop
- 10 boom down
- 11 radio control housing
- A lower
- B raise
- C grab close (or other load handling device function)
- D grab open

Figure A.9 — Basic control arrangement 9 — Radio (bridge type grab ship unloader)



Key

- 1 lower
- 2 raise
- 3 left
- 4 right
- 5 forward
- 6 reverse
- 7 multi-function
- 8 start/alarm
- 9 emergency stop

Figure A.10 — Basic control arrangement 10 — Pendent style radio (remote) - bridge cranes

British Standards Institution (BSI)

BSI is the national body responsible for preparing British Standards and other standards-related publications, information and services.

BSI is incorporated by Royal Charter. British Standards and other standardization products are published by BSI Standards Limited.

About us

We bring together business, industry, government, consumers, innovators and others to shape their combined experience and expertise into standards-based solutions.

The knowledge embodied in our standards has been carefully assembled in a dependable format and refined through our open consultation process. Organizations of all sizes and across all sectors choose standards to help them achieve their goals.

Information on standards

We can provide you with the knowledge that your organization needs to succeed. Find out more about British Standards by visiting our website at bsigroup.com/standards or contacting our Customer Services team or Knowledge Centre.

Buying standards

You can buy and download PDF versions of BSI publications, including British and adopted European and international standards, through our website at bsigroup.com/shop, where hard copies can also be purchased.

If you need international and foreign standards from other Standards Development Organizations, hard copies can be ordered from our Customer Services team.

Copyright in BSI publications

All the content in BSI publications, including British Standards, is the property of and copyrighted by BSI or some person or entity that owns copyright in the information used (such as the international standardization bodies) and has formally licensed such information to BSI for commercial publication and use.

Save for the provisions below, you may not transfer, share or disseminate any portion of the standard to any other person. You may not adapt, distribute, commercially exploit or publicly display the standard or any portion thereof in any manner whatsoever without BSI's prior written consent.

Storing and using standards

Standards purchased in soft copy format:

- A British Standard purchased in soft copy format is licensed to a sole named user for personal or internal company use only.
- The standard may be stored on more than one device provided that it is accessible by the sole named user only and that only one copy is accessed at any one time.
- A single paper copy may be printed for personal or internal company use only.

Standards purchased in hard copy format:

- A British Standard purchased in hard copy format is for personal or internal company use only.
- It may not be further reproduced – in any format – to create an additional copy. This includes scanning of the document.

If you need more than one copy of the document, or if you wish to share the document on an internal network, you can save money by choosing a subscription product (see 'Subscriptions').

Reproducing extracts

For permission to reproduce content from BSI publications contact the BSI Copyright and Licensing team.

Subscriptions

Our range of subscription services are designed to make using standards easier for you. For further information on our subscription products go to bsigroup.com/subscriptions.

With **British Standards Online (BSOL)** you'll have instant access to over 55,000 British and adopted European and international standards from your desktop. It's available 24/7 and is refreshed daily so you'll always be up to date.

You can keep in touch with standards developments and receive substantial discounts on the purchase price of standards, both in single copy and subscription format, by becoming a **BSI Subscribing Member**.

PLUS is an updating service exclusive to BSI Subscribing Members. You will automatically receive the latest hard copy of your standards when they're revised or replaced.

To find out more about becoming a BSI Subscribing Member and the benefits of membership, please visit bsigroup.com/shop.

With a **Multi-User Network Licence (MUNL)** you are able to host standards publications on your intranet. Licences can cover as few or as many users as you wish. With updates supplied as soon as they're available, you can be sure your documentation is current. For further information, email cservices@bsigroup.com.

Revisions

Our British Standards and other publications are updated by amendment or revision.

We continually improve the quality of our products and services to benefit your business. If you find an inaccuracy or ambiguity within a British Standard or other BSI publication please inform the Knowledge Centre.

Useful Contacts

Customer Services

Tel: +44 345 086 9001

Email: cservices@bsigroup.com

Subscriptions

Tel: +44 345 086 9001

Email: subscriptions@bsigroup.com

Knowledge Centre

Tel: +44 20 8996 7004

Email: knowledgecentre@bsigroup.com

Copyright & Licensing

Tel: +44 20 8996 7070

Email: copyright@bsigroup.com

BSI Group Headquarters

389 Chiswick High Road London W4 4AL UK