
**Earth-moving machinery — Visual
display of machine operation**

Engins de terrassement — Affichage visuel des fonctions de l'engin

STANDARDSISO.COM : Click to view the full PDF of ISO 6011:2003



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.

STANDARDSISO.COM : Click to view the full PDF of ISO 6011:2003

© ISO 2003

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 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword.....	iv
1 Scope.....	1
2 Normative references	1
3 Terms and definitions	1
4 Visual display location	1
5 Visual display information	2
6 Visual display characteristics.....	2
7 Colour distinction of visual displays	2

STANDARDSISO.COM : Click to view the full PDF of ISO 6011:2003

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 6011 was prepared by Technical Committee ISO/TC 127, *Earth-moving machinery*, Subcommittee SC 3, *Operation and maintenance*.

This third edition cancels and replaces the second edition (ISO 6011:1987), which has been technically revised.

STANDARDSISO.COM : Click to view the full PDF of ISO 6011:2003

Earth-moving machinery — Visual display of machine operation

1 Scope

This International Standard specifies the machine operation functional information to be presented by the visual displays of earth-moving machinery for a seated operator. It is applicable to earth-moving machinery as defined in ISO 6165.

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 5006-1:1991, *Earth-moving machinery — Operator's field of view — Part 1: Test method*

ISO 6165:2001, *Earth-moving machinery — Basic types — Vocabulary*

ISO 6405-1:1991, *Earth-moving machinery — Symbols for operator controls and other displays — Part 1: Common symbols*

3 Terms and definitions

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

3.1

visual display

device that provides readable information to the operator relevant to the status of specific machine functions and operational characteristics

EXAMPLE Gauge, meter, liquid crystal display, light emitting diode.

3.2

sector of vision

SV

geometric shape that is defined from the eye position specified in ISO 5006-1:1991

NOTE The sector is defined forward along the longitudinal axis of the machine, bounded by planes intersecting at the eye point at 23° to the right and left of the longitudinal axis, and by a plane passing through the eye point and radiating forward at 15° above the longitudinal axis and a plane passing through the eye point and radiating forward at 40° below the longitudinal axis.

4 Visual display location

4.1 Visual displays

Visual displays shall be distinguishable and should identify the relevancy of the information for continued operation of the machine.

Visual displays to which the operator refers while the machine is being driven shall be located in the operator's sector of vision, as indicated in Table 1 by R-SV (required to be within the sector of vision). If a warning light or audible alarm is used to direct the operator's attention to these visual displays when the functions being monitored are not in the normal operating range (e.g. engine over-speed or low brake stored energy pressure), then the 23° plane location to the right or left of the longitudinal axis of the machine may be increased to 60°.

4.2 Other displays

Other visual displays may be located outside of the sector of vision, but shall be readable from the seated operator position.

5 Visual display information

Visual displays shall provide the information identified by the designation R (required) or R-SV according to Table 1. Visual displays may provide information with the designation O (optional) given in Table 1.

NOTE Should information not be appropriate for a given machine, that information is not required; for example, brake-stored energy pressure for crawler type hydraulic excavators on which braking effort is obtained by blocking the hydraulic line at the hydraulic drive motor.

6 Visual display characteristics

6.1 Characters

The visual display shall provide characters or markings of a size large enough to be read by the seated operator.

Where the visual display is a range, it may be divided into sections by graduations. The number of graduations used should be commensurate with the accuracy required.

6.2 Identification

All visual displays shall be identified by an appropriate method. See ISO 6405-1:1991 for symbols to be used for visual displays in order to identify their function and the units or indication of the function being displayed.

6.3 Illumination

Visual displays shall be sufficiently illuminated for night-time viewing and shall be bright enough to be viewed under sunlight operating conditions. Appropriate shielding may be used to reduce the effect of direct sunlight onto the visual display unit.

7 Colour distinction of visual displays

7.1 Colours

The choice of colours for the background, identification symbols, labelling, graduations and analog pointers shall provide high contrast to facilitate ease of viewing.

7.2 Distinctive colour

Visual displays shall use a distinctive colour based on the function.