

ICS 35.180; 13.180

English Version

**Ergonomics of human-system interaction - Part 411: Evaluation  
methods for the design of physical input devices (ISO/TS 9241-  
411:2012)**

Ergonomie de l'interaction homme-système - Partie 411:  
Méthodes d'évaluation de la conception des dispositifs  
d'entrée physiques (ISO/TS 9241-411:2012)

Ergonomie der Mensch-System-Interaktion - Teil 411:  
Bewertungsverfahren für die Gestaltung von physikalischen  
Eingabegeräten (ISO/TS 9241-411:2012)

This Technical Specification (CEN/TS) was approved by CEN on 28 June 2014 for provisional application.

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**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

## Foreword

The text of ISO/TS 9241-411:2012 has been prepared by Technical Committee ISO/TC 159 “Ergonomics” of the International Organization for Standardization (ISO) and has been taken over as CEN ISO/TS 9241-411:2014 by Technical Committee CEN/TC 122 “Ergonomics” the secretariat of which is held by DIN.

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### Endorsement notice

The text of ISO/TS 9241-411:2012 has been approved by CEN as CEN ISO/TS 9241-411:2014 without any modification.

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## Introduction

Input devices are a means for users to enter data into interactive systems. Generally speaking, an input device is a sensor that can detect changes in user behaviour (gestures, moving fingers, etc.) and transform them into signals to be interpreted by the interactive system.

This part of ISO 9241 presents methods for the laboratory analysis and comparison of input devices for interactive systems. It does not contain requirements for input devices, but provides the means for evaluating conformance with the requirements of ISO 9241-410 for input devices such as keyboards, mice, pucks, joysticks, trackballs, touch pads, tablets/overlays, touch-sensitive screens, and styli/light pens.

The target users of this part of ISO 9241 are manufacturers, product designers and test organizations concerned with commercial input devices such as the physical input devices listed above.

# Ergonomics of human-system interaction —

## Part 411:

## Evaluation methods for the design of physical input devices

### 1 Scope

This part of ISO 9241 specifies evaluation methods for the design of physical input devices for interactive systems. It provides guidance for the laboratory assessment of conformance with ISO 9241-410 for keyboards, mice, pucks, joysticks, trackballs, touch pads, tablets/overlays, touch-sensitive screens, and styli/light pens. Its provisions apply only to keyboards identified as “full-size” or “compact” by the manufacturer, but nevertheless could provide useful guidance in the design of other keyboards. It is not applicable to those of the requirements of ISO 9241-410 that relate to gesture- and voice-input systems.

### 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 7000, *Graphical symbols for use on equipment — Index and synopsis*<sup>1)</sup>

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

ISO 9241-307, *Ergonomics of human-system interaction — Part 307: Analysis and compliance test methods for electronic visual displays*

ISO 9241-410:2008, *Ergonomics of human-system interaction — Part 410: Design criteria for physical input devices*

ISO/IEC 9995-1, *Information technology — Keyboard layouts for text and office systems — Part 1: General principles governing keyboard layouts*

IEC 60417, *Graphical symbols for use on equipment*<sup>1)</sup>

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1) The database on Graphical Symbols for Use on Equipment contains the complete set of graphical symbols included in ISO 7000 and IEC 60417: <http://www.graphical-symbols.info/>