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Identification card systems - User Interface — Part 3: Key pads

Identifikationskartensysteme - Schnittstelle Mensch - Maschine - Teil 3: Tastenfelder

Systèmes de cartes d'identification — Interface utilisateur — Partie 3 : Claviers

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Identification card systems - User Interface - Part 3: Key pads

Systèmes de cartes d'identification - Interface utilisateur - Partie 3 : Claviers

Identifikationskartensysteme - Schnittstelle Mensch - Maschine - Teil 3: Tastenfelder

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (prEN 1332-3:2019) has been prepared by Technical Committee CEN/TC 224 “Personal identification and related personal devices with secure element, systems, operations and privacy in a multi sectorial environment”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 1332-3:2008.

Introduction

Machine readable cards facilitate the provision of a growing variety of services across Europe. The purpose of EN 1332 is to increase the accessibility of these services for the benefit of consumers. This will be achieved by facilitating the inter-sector and cross-border interoperability of machine readable cards and to do so with the maximum possible degree of user-friendliness.

EN 1332 addresses the needs of the widest possible range of users, for example the aged, minors, people with disabilities, those with learning difficulties, first time users and those not conversant with the local language.

EN 1332 specifies:

a) design principles for the user interface (including symbols) to be incorporated into the design of card operated devices, but not the machine operations associated with the selection and delivery of goods or services ;

b) tactile identifiers incorporated into the design of machine readable cards;

c) standard layout for the keypads of card operated devices;

d) coding of user requirements for people with special needs;

e) tactile markings for differentiating cards by application.

The contents of EN 1332 are generically based, not sector specific, and cover card operated devices. It is recognized that the equipment may also be operated by other means, such as the insertion of notes and coins, but the scope of this standard has been, as indicated, narrowly defined.

Issues relating to such consumer concerns at the man-machine interface as PIN presentation are not dealt with in EN 1332.

The EN 1332 standard has been completed with CEN/TS 15291 – Guidance on design for accessible card- activated devices. This technical specification provides guidance for the design and location of card activated devices and the immediate environment to facilitate access for the users.

1 Scope

This document covers the ergonomic layout and usability of keypads. The keypad may consist of numeric, command and function keys and alphanumeric characters. On the basis that keypad layout impacts performance (keying speed, and errors), this document aims to:

— enhance usability;

— ensure ease of use through consistency;

— increase customer confidence;

— reduce customer error;

— improve operating time;

— ensure ergonomic data entry.

This document specifies the arrangement, the number and location of numeric, function and command keys, including placement of alphabetic characters on numeric keys. Design requirements and recommendations are also provided.

This document applies to all identification card systems with a numeric keypad for use by the public for stationary or non-stationary devices. This document also covers keypads on touch sensitive devices.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

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

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
command keys
keys “cancel”, “enter” and “clear”

Note 1 to entry: These keys are described in Table 1.

3.2
disability
any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being

[SOURCE: EN ISO/IEC 24751-2:2008(en), 3.15]

Note 1 to entry: Disability can be temporary.

3.3
function keys
keys that either have a dedicated function (hard key) or a variable function which depends on the mode of operation (soft key)

Note 1 to entry: see Table A.1, Annex A for examples of function keys.

3.4
graphical symbol
visually perceptible figure with a particular meaning used to transmit information independently of language

[SOURCE: ISO 7001:2007(en), 3.1]

3.5
key legend
text or graphical symbol on the key to explain visually the use of the key

3.6
keypad
arrangement of numeric, command and, where required, function and/or alphanumeric keys laid out in a specific manner

Note 1 to entry: Keypads can be physical mechanical or touch sensitive.

3.7
non-stationary device
small, compact, lightweight input device which is movable to a position that the user needs

3.8
numeric keys
keys on a keyboard that contain the characters 0 to 9

3.9
personal Identification Number
PIN
code or password the customer possesses for verification of identity

3.10
sans serif typeface
font family derived from Antiqua in which the line strength is almost uniform and which does not have serifs

3.11
serifs
small line attached to the end of a stroke in a letter

Note 1 to entry: Also called foot.

3.12
stationary device
input device that is fixed to a specific location and that is not portable, but may be adjustable, e.g. in height

3.13
tactile
feelable by touch

3.14
tactile identifier
raised dot on the “5” key to facilitate orientation

3.15
tactile symbol
graphical symbol on the key to explain tactually the use of the key

3.16
touch sensitive device
input device that produces a position and selection input signal from a finger touching, lifting off or moving across a display

[SOURCE: ISO/TS 9241-411:2012, 3.20]

4 Sections of the device

4.1 General

There may be three sections of the device

— Keypad, covering:

  — numeric section optionally including alphabetic characters;

  — command key section;

  — function key section;

— Card feeder and contactless point

— Protection shield

The input area (keypad) shall be at the bottom of the device, clearly distinguished from a display or an information area.

4.2 Numeric keys

All keypads shall provide for the entry of the decimal numeric characters 0 to 9.

The arrangement of numeric keys shall be according to Figure 1.

The “5” key shall be identified by a tactile identifier.

NOTE 1 This is to assist blind and visually impaired people.

The tactile identifier shall be a raised dot.

The raised dot shall be raised at least 0,7 mm and its position shall not interfere with the legibility of the key legend.

Other tactile identifiers or raised numerals shall not be present on the numeric keys.

For all numeric keys the colour shall not be green, red, yellow.

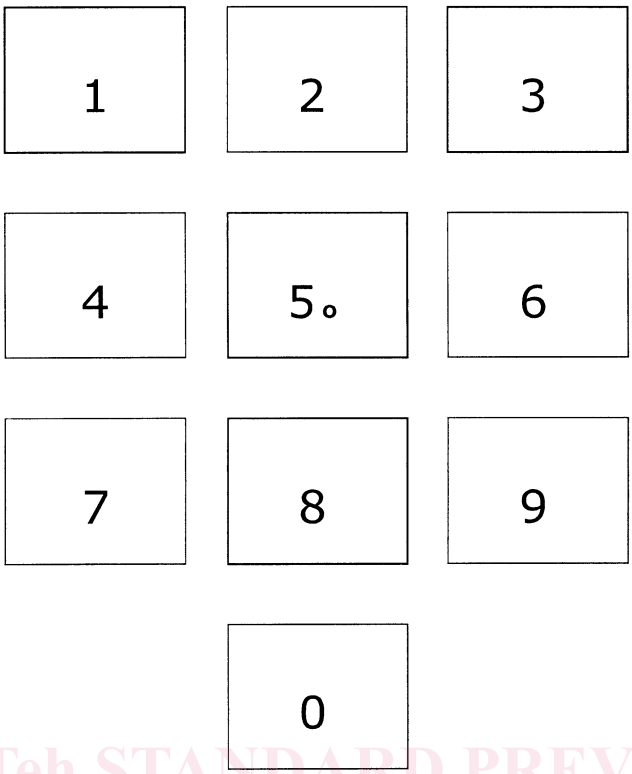

Figure 1 — Arrangement of numeric key on keypad

NOTE 2 Figure 1 is not to scale.

4.3 Alphabetic characters

Alphabetic characters shall only be used if they are essential for performance of the task.

If used, they shall not interfere with the legibility of the key legend.

If alphabetic characters are required then they shall be placed on the numeric keys as specified in Figure 2.

NOTE 1 Keys 1 and 0 contain no alphabetic characters.

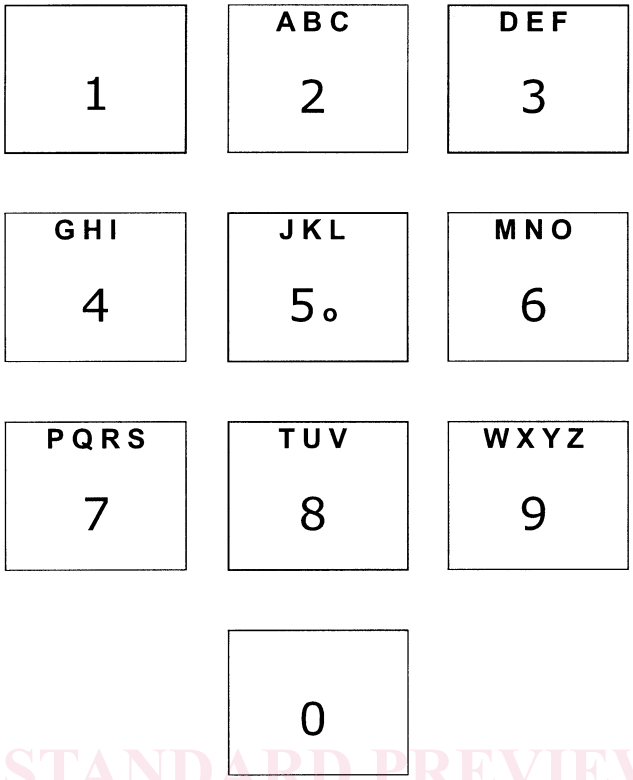

Figure 2 — Placement of Latin alphabetic characters on the numeric keys

NOTE 2 Figure 2 is not to scale.

NOTE 3 In some circumstances it may be more appropriate to place the alphabetic characters on the casing instead on the key top.

NOTE 4 There are other alphabetic characters which may also be present on the key surface.

4.4 Command keys

4.4.1 General

The keys “cancel” and “enter” shall be present on a keypad as a minimum. The command key “clear” may also be present.

The functional description and design of the command keys is mandatory as according to Table 1.