

**Health informatics - Personal health device
communication - Part 10407: Device specialization -
Blood pressure monitor (ISO/IEEE 11073-10407:2010)**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 11073-10407:2011 sisaldab Euroopa standardi EN ISO 11073-10407:2011 ingliskeelset teksti.

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English Version

Health informatics - Personal health device communication -
Part 10407: Device specialization - Blood pressure monitor
(ISO/IEEE 11073-10407:2010)

Informatique de santé - Communication entre dispositifs de
santé personnels - Partie 10407: Spécialisation des
dispositifs - Moniteur de pression sanguine (ISO/IEEE
11073-10407:2010)

Medizinische Informatik - Kommunikation von Geräten für
die persönliche Gesundheit - Teil 10407:
Gerätespezifikation - Blutdruckmonitor (ISO/IEEE 11073-
10407:2010)

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Foreword

The text of ISO/IEEE 11073-10407:2010 has been prepared by Technical Committee ISO/TC 215 “Health informatics” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 11073-10407:2011 by Technical Committee CEN/TC 251 “Health informatics” the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2011, and conflicting national standards shall be withdrawn at the latest by September 2011.

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Endorsement notice

The text of ISO/IEEE 11073-10407:2010 has been approved by CEN as a EN ISO 11073-10407:2011 without any modification.

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Introduction

ISO/IEEE 11073 standards enable communication between medical devices and external computer systems. This document uses the optimized framework created in IEEE Std 11073-20601^a and describes a specific, interoperable communication approach for blood pressure monitors. These standards align with and draw on the existing clinically focused standards to provide support for communication of data from personal health devices.

^aInformation on references can be found in Clause 2.

Health informatics — Personal health device communication —

Part 10407: Device specialization — Blood pressure monitor

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1. Overview

1.1 Scope

Within the context of the ISO/IEEE 11073 family of standards for device communication, this standard establishes a normative definition of communication between personal telehealth blood pressure monitor devices and compute engines (e.g., cell phones, personal computers, personal health appliances, and set top boxes) in a manner that enables plug-and-play interoperability. It leverages appropriate portions of existing standards including ISO/IEEE 11073 terminology, information models, application profile standards, and transport standards. It specifies the use of specific term codes, formats, and behaviors in telehealth environments restricting optionality in base frameworks in favor of interoperability. This standard defines a common core of communication functionality for personal telehealth blood pressure monitors.

1.2 Purpose

This standard addresses a need for an openly defined, independent standard for controlling information exchange to and from personal health devices and compute engines (e.g., cell phones, personal computers, personal health appliances, and set top boxes). Interoperability is the key to growing the potential market for these devices and to enabling people to be better informed participants in the management of their health.

1.3 Context

See IEEE Std 11073-20601™ for an overview of the environment within which this standard is written.

This document, IEEE Std 11073-10407, defines the device specialization for the blood pressure monitor, being a specific agent type, and provides a description of the device concepts, its capabilities, and its implementation according to this standard.

This standard is based on IEEE Std 11073-20601, which in turn draws information from both ISO/IEEE 11073-10201:2004 [B5]¹ and ISO/IEEE 11073-20101:2004 [B6]. The medical device encoding rules (MDERs) used within this standard are fully described in IEEE Std 11073-20601.

This standard reproduces relevant portions of the nomenclature found in ISO/IEEE 11073-10101:2004 [B4] and adds new nomenclature codes for the purposes of this standard. Between this standard and IEEE Std 11073-20601, all required nomenclature codes for implementation are documented.

NOTE—In this standard, IEEE Std 11073-104zz is used to refer to the collection of device specialization standards that utilize IEEE Std 11073-20601, where zz can be any number from 01 to 99, inclusive.²

2. Normative references

The following referenced documents are indispensable for the application of this document (i.e., they must be understood and used, so that each referenced document is cited in text and its relationship to this document is explained). For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments or corrigenda) applies.

IEEE Std 11073-20601TM-2008, Health informatics—Personal health device communication—Part 20601: Application profile—Optimized Exchange Protocol.^{3,4}

See Annex A for all informative material referenced by this standard.

3. Definitions, acronyms, and abbreviations

3.1 Definitions

For the purposes of this standard, the following terms and definitions apply. *The Authoritative Dictionary of IEEE Standards Terms* [B2] should be referenced for terms not defined in this clause.

3.1.1 agent: A node that collects and transmits personal health data to an associated manager.

3.1.2 blood pressure: The cyclic pressure (i.e., amount of force applied over a given area divided by the size of this area) exerted by blood against the walls of blood vessels. Noninvasive blood pressure measurement is typically performed at the brachial artery (arm) or radial artery (wrist). There are usually two numbers reported for blood pressure, and with the home monitors, a third number is typically available. The first, and higher, number is produced by the contraction of the heart (See: **systolic pressure**). The second, lower number is produced by relaxation of the heart (See: **diastolic pressure**). The third number is the mean arterial pressure.

3.1.3 class: In object-oriented modeling, a class describes the attributes, methods, and events that objects instantiated from the class utilize.

3.1.4 compute engine: See: **manager**.

3.1.5 device: A term used to refer to a physical apparatus implementing either an agent or a manager role.

3.1.6 diastolic pressure: This is minimum pressure achieved during the cardiac cycle. It is typically the second and the lower of the readings given as the blood pressure.

¹The numbers in brackets correspond to those of the bibliography in Annex A.

²Notes in text, tables, and figures are given for information only and do not contain requirements needed to implement the standard.

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