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Health informatics - Point-of-care medical device communication - Part 10101: Nomenclature (ISO/IEEE FDIS 11073-10101:2020)

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Health informatics — Device interoperability —

Part 10101: Point-of-care medical device communication — Nomenclature

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This second edition cancels and replaces the first edition (ISO/IEEE 11073-10101:2004), which has been technically revised. It also incorporates the Amendment ISO/IEEE 11073-10101:2004/Amd 1:2017.

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IEEE Std 11073-10101™-2019

(Revision of
ISO/IEEE 11073-10101:2004)

Health informatics—Point-of-care medical device communication

Part 10101: Nomenclature

Developed by the

IEEE 11073™ Standards Committee

of the

IEEE Engineering in Medicine and Biology Society

Approved 13 June 2019

IEEE SA Standards Board

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ISO/IEEE 11073-10101:2020(E)

Abstract: Within the context of the ISO/IEEE 11073 family of standards for point-of-care (POC) and personal health devices (PHD) medical device communication (MDC), this standard provides the nomenclature that supports both the domain information model and service model components of the standards family, as well as the semantic content exchanged with medical devices. The nomenclature is specialized for patient vital signs information representation and medical device informatics, with major areas including concepts for electrocardiograph (ECG), haemodynamics, respiration, blood gas, urine, fluid-related metrics, and neurology, as well as specialized units of measurement, general device events, alarms, and body sites. The standard defines both the architecture and major components of the nomenclature, along with extensive definitions for each conceptual area.

Keywords: codes, IEEE 11073-10101™, IHE PCD-01, independent living, information model, medical device communication, nomenclature, ontology, patient, personal health devices, PHD, POC, point-of-care, semantics, service model, terminology

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Introduction

This introduction is not part of IEEE Std 11073-10101-2019, Health informatics—Point-of-Care Medical Device Communication—Nomenclature.

ISO/IEEE 11073 standards enable communication between medical devices and external computer systems. They provide automatic and detailed electronic data capture of patient vital signs information and device operational data. The primary goals are to

- Provide real-time plug-and-play interoperability for patient-connected medical devices.
- Facilitate the efficient exchange of vital signs and medical device data, acquired at the point-of-care, in all health care environments.

“Real-time” means that data from multiple devices can be retrieved, time correlated, and displayed or processed in fractions of a second. “Plug-and-play” means that all the clinician has to do is make the connection — the systems automatically detect, configure, and communicate without any other human interaction.

“Efficient exchange of medical device data” means that information that is captured at the point-of-care (e.g., patient vital signs data) can be archived, retrieved, and processed by many different types of applications without extensive software and equipment support, and without needless loss of information. The standards focus on acute care devices, such as patient monitors, ventilators, infusion pumps, ECG devices, etc, and personal health devices and systems. They comprise a family of standards that can be layered together to provide connectivity optimized for the specific devices being interfaced.

IEEE Std 11073-10101 was originally published in 2004 in conjunction with the International Organization for Standardization (ISO). In 2015, IEEE published an amendment that expanded the nomenclature and definitions covered in the standard to reflect the continued innovation in medical device and system design. This 2019 revision integrates the amendment into the original text and further updates and expands the nomenclature and definitions.

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Contents

1. Scope	20
2. Normative references.....	20
3. Terms, definitions, symbols, and abbreviated terms.....	22
3.1 Terms and definitions	22
3.2 Symbols and abbreviated terms	22
4. Conformance	25
5. Introduction to the standard.....	25
6. Application	25
7. Semantics.....	26
7.1 Attribution	26
7.2 Coding	27
7.2.1 Context-sensitivity	27
7.2.2 Grouping	28
7.3 Synonyms	29
7.4 Deprecated terms	29
7.5 Withdrawn terms	29
8. Syntax.....	29
8.1 Transfer.....	29
8.1.1 Types.....	29
8.1.2 Notation	30
8.2 Programmatic form.....	32
8.2.1 Attribution.....	32
8.2.2 Notation	32
9. Extensibility.....	33
10. Version exporting	33
Annex A (normative) Nomenclature semantics.....	34
A.1 Overview of nomenclature for vital signs—Semantics	34
A.2 Code assignment to the MDIB elements.....	35
A.2.1 Overview	35
A.2.2 Relationship to other standards	35
A.2.3 Basic rules	35
A.2.4 Coding spaces	36
A.3 Data dictionary and codes for object-oriented modeling elements (Partition 1).....	45
A.3.1 Introduction.....	45
A.3.2 Object-oriented modeling elements: inventory tables	46
A.4 Data dictionary and codes for communication infrastructure (Partition 8).....	79
A.4.1 Introduction	79
A.4.2 Communication infrastructure: inventory tables	79
A.5 Nomenclature, data dictionary, and codes for vital signs devices (Partition 1)	84
A.5.1 Introduction.....	84
A.5.2 Base concepts.....	85