



BSI Standards Publication

Health informatics — Device interoperability

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

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National foreword

This British Standard is the UK implementation of EN ISO 11073-10101:2020. It is identical to ISO/IEEE 11073-10101:2020. It supersedes BS EN ISO 11073-10101:2005+A1:2017, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee IST/35, Health informatics.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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English Version

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

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- Partie 10101: Communication entre dispositifs
médicaux sur le site des soins - Nomenclature
(ISO/IEEE 11073-10101:2020)

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patientennaher medizinischer Geräte - Teil 10101:
Nomenklatur (ISO/IEEE 11073-10101:2020)

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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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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 |

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| | |
|--|-----|
| A.5.3 First set of differentiating criteria..... | 85 |
| A.5.4 Second set of differentiating criteria | 86 |
| A.5.5 Third set of differentiating criteria | 86 |
| A.5.6 Attributes..... | 87 |
| A.5.7 Device class discriminator | 87 |
| A.5.8 Code table | 87 |
| A.6 Terminology and codes for units of measurement (Partition 4)..... | 98 |
| A.6.1 Introduction..... | 98 |
| A.6.2 Orders of magnitude discriminator | 98 |
| A.6.3 Units outside of SI..... | 99 |
| A.6.4 Units of measurement | 100 |
| A.6.5 Withdrawn terms for vital signs units of measurement..... | 122 |
| A.6.6 Deprecated terms for vital signs units of measurement..... | 123 |
| A.6.7 Deprecated RefIds for Vital Signs Units of Measurement..... | 124 |
| A.7 Nomenclature, data dictionary, and codes for metrics (measurements and enumerations) (Partition 2)..... | 125 |
| A.7.1 Nomenclature for ECG measurements..... | 125 |
| A.7.2 Nomenclature for ECG enumerations | 157 |
| A.7.3 Nomenclature, data dictionary, and codes for haemodynamic monitoring measurements | 173 |
| A.7.4 Nomenclature and codes for respiratory, ventilator, and anesthesia measurements..... | 192 |
| A.7.5 Nomenclature, data dictionary, and codes for common blood-gas, blood, urine, and other fluid chemistry measurements | 273 |
| A.7.6 Nomenclature, data dictionary, and codes for fluid output measurements..... | 288 |
| A.7.7 Nomenclature, data dictionary, and codes for pumps | 292 |
| A.7.8 Nomenclature, data dictionary, and codes for neurological monitoring measurements..... | 309 |
| A.7.9 Nomenclature, data dictionary, and codes for neurophysiologic enumerations | 322 |
| A.7.10 Nomenclature, data dictionary, and codes for stimulation modes..... | 346 |
| A.7.11 Nomenclature, data dictionary, and codes for miscellaneous measurements..... | 353 |
| A.7.12 Nomenclature and code extensions for infant incubator and warmer microenvironments..... | 360 |
| A.7.13 Nomenclature, data dictionary, and codes for spirometry..... | 362 |
| A.7.14 Nomenclature and code extensions for personal health devices | 372 |
| A.8 Nomenclature, data dictionary, and codes for body sites (Partition 7) | 377 |
| A.8.1 Introduction | 377 |
| A.8.2 Sites for neurophysiological signal monitoring: locations near peripheral nerves..... | 378 |
| A.8.3 Sites for neurophysiological signal monitoring: locations near muscles..... | 392 |
| A.8.4 Sites for EEG-electrode placement on the head | 430 |
| A.8.5 Sites for EOG signal monitoring..... | 438 |
| A.8.6 Sites for general neurological monitoring measurements and drainage..... | 443 |
| A.8.7 Sites for cardiovascular measurements | 445 |
| A.8.8 Miscellaneous sites used in vital signs monitoring and measurement | 451 |
| A.8.9 Equipment sites used in vital signs monitoring and measurement..... | 466 |
| A.8.10 Qualifiers of body site locations..... | 468 |
| A.9 Nomenclature, data dictionary, and codes for events and alerts (Partition 3)..... | 472 |
| A.9.1 Introduction..... | 472 |
| A.9.2 Diagnostic pattern events | 472 |
| A.9.3 Device-related and environment-related events | 483 |
| A.10 Systematic derivations of terms and codes for infrastructure (Partition 8)..... | 519 |
| A.10.1 Introduction..... | 519 |
| A.10.2 Base concepts, device specialization..... | 519 |
| A.10.3 Base concepts, device sub-specialization..... | 523 |
| A.10.4 Base concepts, time synchronization profiles | 526 |
| A.11 Systematic derivations of terms and codes for personal health devices disease management (Partition 128)..... | 527 |
| A.11.1 Introduction..... | 527 |
| A.11.2 Base concepts, general device properties | 527 |
| A.11.3 Base concepts, Basic ECG sensors and status..... | 528 |

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| | |
|---|-----|
| A.11.4 Base concepts, Basic ECG event context..... | 528 |
| A.11.5 Base concepts, SABTE sensors and settings..... | 529 |
| A.11.6 Base concepts, SABTE modes..... | 540 |
| A.11.7 Base concepts, Glucose Monitoring, carbohydrate source..... | 542 |
| A.11.8 Base concepts, Glucose Monitoring, carbohydrate source..... | 543 |
| A.11.9 Base concepts, Glucose Monitoring, carbohydrate sources..... | 543 |
| A.11.10 Base concepts, Glucose Monitoring, insulin type..... | 545 |
| A.11.11 Base concepts, Glucose Monitoring, insulin types..... | 546 |
| A.11.12 Base concepts, Glucose Monitoring, general health..... | 547 |
| A.11.13 Base concepts, Glucose Monitoring, general health..... | 548 |
| A.11.14 Base concepts, Glucose Monitoring, sample location..... | 549 |
| A.11.15 Base concepts, Glucose Monitoring, sample locations..... | 549 |
| A.11.16 Base concepts, Glucose Monitoring, meal..... | 551 |
| A.11.17 Base concepts, Glucose Monitoring, meal type..... | 552 |
| A.11.18 Base concepts, Glucose Monitoring, tester..... | 553 |
| A.11.19 Base concepts, Glucose Monitoring, tester type..... | 554 |
| A.11.20 INR Status and Context..... | 554 |
| A.11.21 Base concepts, Continuous Glucose Monitoring..... | 556 |
| A.11.22 Base concepts, Continuous Glucose Monitoring, status..... | 558 |
| A.11.23 Base concepts, Continuous Glucose Monitoring, device..... | 559 |
| A.11.24 Base concepts, Insulin Pump, sensors..... | 560 |
| A.11.25 Base concepts, Power Status Monitor, sensors..... | 563 |
| A.11.26 Base concepts, Power Status Monitor, battery..... | 564 |
| A.11.27 Base concepts, Peak Expiratory Flow..... | 565 |
| A.12 Systematic derivations of terms and codes for health and fitness (Partition 129)..... | 566 |
| A.12.1 Introduction..... | 566 |
| A.12.2 Base concepts..... | 566 |
| A.12.3 First set of differentiating criteria, sensors..... | 566 |
| A.12.4 Second set of differentiating criteria, activity..... | 570 |
| A.12.5 First set of differentiating criteria, exercise..... | 572 |
| A.12.6 Second set of differentiating criteria, exercise..... | 572 |
| A.13 Systematic derivations of terms and codes for independent living monitoring measurements (Partition 130)..... | 575 |
| A.13.1 Introduction..... | 575 |
| A.13.2 Base concepts..... | 575 |
| A.13.3 First set of differentiating criteria, sensor..... | 575 |
| A.13.4 Second set of differentiating criteria, location, general..... | 579 |
| A.13.5 Second set of differentiating criteria, location, room..... | 581 |
| A.13.6 Second set of differentiating criteria, location, medical room..... | 584 |
| A.13.7 Second set of differentiating criteria, location, doors and windows..... | 586 |
| A.13.8 Second set of differentiating criteria, location, furniture..... | 587 |
| A.13.9 Second set of differentiating criteria, location, appliance..... | 588 |
| A.13.10 Third set of differentiating criteria, AI events..... | 590 |
| A.13.11 First set of differentiating criteria, sensors, medication dispenser..... | 593 |
| A.14 Nomenclature for error return codes (Partition 255)..... | 595 |
| A.14.1 Base concepts..... | 595 |
| A.14.2 First set of differentiating criteria..... | 595 |
| A.14.3 Code table..... | 595 |
| A.14.4 Withdrawn terms for error return codes..... | 596 |
| A.15 Nomenclature, data dictionary, and codes for external nomenclatures and messaging standards (Partition 256)..... | 597 |
| A.15.1 Introduction..... | 597 |
| A.15.2 Base concepts..... | 597 |
| A.15.3 First set of differentiating criteria..... | 597 |
| A.15.4 Second set of differentiating criteria..... | 598 |
| A.15.5 Third set of differentiating criteria..... | 598 |

This is a preview of "BS EN ISO 11073-1010...". [Click here to purchase the full version from the ANSI store.](#)

| | |
|--|-----|
| A.15.6 Discriminator | 598 |
| A.15.7 Code table | 598 |
| A.16 Information attributes to support IHE PCD DEC and PCHA/Continua Services Interface (Partition 1 and Partition 8) | 602 |
| A.16.1 Information attributes to support IHE PCD Alert Communication Management | 602 |
| A.16.2 Notification attributes to support IHE PCD Alert Communication Management | 602 |
| A.16.3 Infrastructure attributes to support PCHA/Continua Services Interface and IHE PCD DEC | 602 |
| A.16.4 Information attributes to support PCHA/Continua Services Interface | 604 |
| A.16.5 Information attributes to support IHE PCD DEC and PCHA/Continua Services Interface timekeeping | 604 |
| A.16.6 Information attributes to support semantics defined by this standard | 607 |
| A.16.7 Information attributes to support ECG semantics defined by this standard | 607 |
| Annex B (normative) Nomenclature syntax | 608 |
| B.1 General | 608 |
| B.1.1 Notation | 608 |
| B.1.2 Partition codes | 608 |
| B.2 Object infrastructure and device nomenclature – Partition 1 | 609 |
| B.2.1 Object infrastructure | 609 |
| B.2.2 Device nomenclature | 630 |
| B.3 Medical supervisory control and data acquisition (SCADA) – Partition 2 | 650 |
| B.3.1 Discriminator ranges | 650 |
| B.3.2 SCADA Term Codes | 651 |
| B.4 Events – Partition 3 | 722 |
| B.5 Dimensions – Partition 4 | 741 |
| B.6 Virtual attributes – Partition 5 | 761 |
| B.7 Parameter groups – Partition 6 | 761 |
| B.8 Body Sites – Partition 7 | 761 |
| B.9 Communication infrastructure – Partition 8 | 802 |
| B.10 File Exchange Format – Partition 9 | 810 |
| B.11 ECG Extension – Partition 10 | 810 |
| B.12 ICDO Extension – Partition 11 | 810 |
| B.13 PHD Disease Management – Partition 128 | 810 |
| B.14 PHD Health Fitness – Partition 129 | 820 |
| B.15 PHD Aging Independently – Partition 130 | 824 |
| B.16 Return Codes – Partition 255 | 835 |
| B.17 External nomenclature – Partition 256 | 836 |
| B.18 Device Settings – Partition 258 | 837 |
| B.19 Device Predicted Values – Partition 514 | 840 |
| Annex C (normative) Terms, discriminators, and numeric codes | 843 |
| C.1 Overview | 843 |
| C.2 Discriminators | 843 |
| C.3 Discriminator sets | 844 |
| C.3.1 Device Type [MVC] discriminator set | 844 |
| C.3.2 Statistical [MMM] discriminator set | 844 |
| C.3.3 Haemodynamic pressure measurements [SDM] discriminator set | 844 |
| C.3.4 Rates for countable events [RCE] discriminator set | 845 |
| C.3.5 Rates for countable neurological events [RCN] discriminator set | 845 |
| C.3.6 Body Site Orientation (laterally) [LAT] discriminator set | 845 |
| C.3.7 Unit of Measure [UoM] discriminator set | 846 |
| C.3.8 Unit of Measure (singular) [UoM1] discriminator | 846 |
| C.3.9 No [1] Discriminator | 847 |
| C.3.10 Event [2] discriminator set | 847 |
| C.3.11 Statistical profile [PN3] discriminator set | 847 |

This is a preview of "BS EN ISO 11073-1010...". [Click here to purchase the full version from the ANSI store.](#)

| | |
|--|------|
| C.3.12 Location [LOC] discriminator set | 848 |
| C.3.13 Version of External Nomenclature [64] Discriminator | 849 |
| C.3.14 ECG lead designation from ISO/IEEE 11073-10101:2004 [LEAD1] discriminator set | 849 |
| C.3.15 ECG lead designation from ISO/IEEE 11073-10102:2012 [LEAD2] discriminator set | 852 |
| C.3.16 Equivalent ECG lead designations in ISO/IEEE 11073-10101:2004 and ISO/IEEE 11073-10102:2012 [LEAD] discriminator set | 857 |
| C.3.17 Comparison of ECG lead discriminators in ISO/IEEE 11073-10101:2004 and ISO/IEEE 11073-10102:2012 | 859 |
| C.4 Alphabetical listing of terms, discriminators, and numeric codes..... | 862 |
| C.4.1 Object-Oriented – Partition 1 | 862 |
| C.4.2 Supervisory Control and Data Acquisition (SCADA) – Partition 2 | 895 |
| C.4.3 Events and Alerts – Partition 3 | 950 |
| C.4.4 Dimensions – Partition 4 | 965 |
| C.4.5 Parameter Groups – Partition 6 | 981 |
| C.4.6 Body Sites – Partition 7..... | 981 |
| C.4.7 Communication Infrastructure—Partition 8..... | 1014 |
| C.4.8 PHD Disease Management—Partition 128 | 1019 |
| C.4.9 PHD Health Fitness—Partition 129 | 1025 |
| C.4.10 PHD Aging Independently—Partition 130..... | 1028 |
| C.4.11 Return Codes—Partition 255 | 1036 |
| C.4.12 External Nomenclature—Partition 256 | 1036 |
| C.4.13 Device Settings—Partition 258 | 1037 |
| C.4.14 Predicted Values—Partition 514 | 1040 |
| Annex D (informative) Synonyms | 1042 |
| D.1.1 Term code Synonyms..... | 1042 |
| D.1.2 RefId synonyms | 1042 |
| Annex E (informative) Breaths and inflations..... | 1044 |
| Annex F (informative) Respiratory, ventilator, and anesthesia RefId naming conventions | 1046 |
| Annex G (informative) Anesthesia ventilation and breathing circuits | 1048 |
| G.1 Bellows driven on expiratory side | 1050 |
| G.2 Piston driven on inspiratory side..... | 1051 |
| G.3 Mapleson circuits..... | 1052 |
| Annex H (informative) Term approval and management process..... | 1053 |
| H.1 Term approval and management process..... | 1053 |
| H.1.1 Proposed term | 1054 |
| H.1.2 Proposed term review..... | 1054 |
| H.1.3 Provisional term..... | 1054 |
| H.1.4 Provisional term review | 1054 |
| H.1.5 Rejected term | 1054 |
| H.1.6 Accepted term | 1054 |
| H.1.7 IEEE Ballot | 1054 |
| H.1.8 Published term..... | 1055 |
| H.1.9 Deprecated term | 1055 |
| H.1.10 Withdrawn term | 1055 |
| H.2 Rosetta Terminology Mapping Management System (RTMMS)..... | 1055 |
| H.3 Right to use..... | 1055 |
| Annex I (informative) Bibliography..... | 1057 |
| Annex J (informative) Revision history | 1059 |

This is a preview of "BS EN ISO 11073-1010...". Click here to purchase the full version from the ANSI store.

Tables

| | |
|---|----|
| Table 1—Nomenclature attributes..... | 26 |
| Table 2—Attribution example..... | 26 |
| Table 3—Systematic name derivation—medical device type example..... | 27 |
| Table A.2.4.1.1—Partition 1—Object-oriented elements, Device nomenclature..... | 37 |
| Table A.2.4.2.1—Partition 2—Metrics (multipage table)..... | 37 |
| Table A.2.4.3.1—Partition 3—Alerts and events..... | 39 |
| Table A.2.4.4.1—Partition 4—Units of measurement (dimensions)..... | 39 |
| Table A.2.4.6.1—Partition 6—Program group..... | 40 |
| Table A.2.4.7.1—Partition 7—Body sites..... | 40 |
| Table A.2.4.8.1—Partition 8—Communication infrastructure..... | 41 |
| Table A.2.4.9.1—Partition 9—Reserved for file exchange format (FEF)..... | 41 |
| Table A.2.4.10.1—Partition 10—ECG additional nomenclature (annotated ECG)..... | 41 |
| Table A.2.4.11.1—Partition 11—IDCO nomenclature..... | 41 |
| Table A.2.4.12.1—Partition 128—PHD disease management..... | 42 |
| Table A.2.4.13.1—Partition 129—PHD health and fitness..... | 42 |
| Table A.2.4.14.1—Partition 130—PHD aging independently..... | 43 |
| Table A.2.4.15.1—Partition 255—Return codes..... | 43 |
| Table A.2.4.16.1—Partition 256—External nomenclatures..... | 43 |
| Table A.2.4.17.1—Partition 258—Settings..... | 44 |
| Table A.2.4.18.1—Partition 514—Predicted values..... | 44 |
| Table A.2.4.19.1—Partition 1024—Private..... | 44 |
| Table A.3.2.1.1—Object-oriented modeling elements—General—object class items..... | 46 |
| Table A.3.2.1.2—Object-oriented modeling elements—General—attributes..... | 47 |
| Table A.3.2.1.3—Object-oriented modeling elements—General—attribute groups..... | 47 |
| Table A.3.2.1.4—Object-oriented modeling elements—General—behavior..... | 47 |
| Table A.3.2.1.5—Object-oriented modeling elements—General—notifications..... | 47 |
| Table A.3.2.2.1—Object-oriented modeling elements—Medical Package—object class items..... | 47 |
| Table A.3.2.2.2—Object-oriented modeling elements—Medical Package—attributes (multipage table).... | 48 |
| Table A.3.2.2.3—Object-oriented modeling elements—Medical Package—attribute groups..... | 52 |
| Table A.3.2.2.4—Object-oriented modeling elements—Medical Package—behavior..... | 52 |
| Table A.3.2.2.5—Object-oriented modeling elements—Medical Package—notifications..... | 52 |
| Table A.3.2.3.1—Object-oriented modeling elements—Alert Package—object class items..... | 53 |
| Table A.3.2.3.2—Object-oriented modeling elements—Alert Package—attributes..... | 53 |
| Table A.3.2.3.3—Object-oriented modeling elements—Alert Package—attribute groups..... | 53 |
| Table A.3.2.3.4—Object-oriented modeling elements—Alert Package—behavior..... | 53 |
| Table A.3.2.3.5—Object-oriented modeling elements—Alert Package—notifications..... | 54 |
| Table A.3.2.4.1—Object-oriented modeling elements—System Package—object class items..... | 54 |
| Table A.3.2.4.2—Object-oriented modeling elements—System Package—attributes (multipage table).... | 54 |
| Table A.3.2.4.3—Object-oriented modeling elements—System Package—attribute groups..... | 56 |
| Table A.3.2.4.4—Object-oriented modeling elements—System Package—behavior..... | 57 |
| Table A.3.2.4.5—Object-oriented modeling elements—System Package—notifications..... | 57 |
| Table A.3.2.5.1—Object-oriented modeling elements—Control Package—object class items..... | 57 |
| Table A.3.2.5.2—Object-oriented modeling elements—Control Package—attributes (multipage table).... | 57 |
| Table A.3.2.5.3—Object-oriented modeling elements—Control Package—attribute groups..... | 59 |
| Table A.3.2.5.4—Object-oriented modeling elements—Control Package—behavior..... | 59 |
| Table A.3.2.5.5—Object-oriented modeling elements—Control Package—notifications..... | 59 |
| Table A.3.2.6.1—Object-oriented modeling elements—Extended Services Package—object class items..... | 59 |
| Table A.3.2.6.2—Object-oriented modeling elements—Extended Services Package—attributes..... | 60 |
| Table A.3.2.6.3—Object-oriented modeling elements—Extended Services Package—attribute groups ... | 60 |
| Table A.3.2.6.4—Object-oriented modeling elements—Extended Services Package—behavior..... | 61 |
| Table A.3.2.6.5—Object-oriented modeling elements—Extended Services Package—notifications..... | 61 |
| Table A.3.2.7.1—Object-oriented modeling elements—Communication Package—object class items.... | 61 |

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| | |
|---|-----|
| Table A.3.2.7.2—Object-oriented modeling elements—Communication Package—attributes (<i>multipage table</i>) | 62 |
| Table A.3.2.7.3—Object-oriented modeling elements—Communication Package—attribute groups | 63 |
| Table A.3.2.7.4—Object-oriented modeling elements—Communication Package—behavior | 63 |
| Table A.3.2.7.5—Object-oriented modeling elements—Communication Package—notifications | 63 |
| Table A.3.2.8.1—Object-oriented modeling elements—Archival Package—object class items | 63 |
| Table A.3.2.8.2—Object-oriented modeling elements—Archival Package—attributes (<i>multipage table</i>) | 64 |
| Table A.3.2.8.3—Object-oriented modeling elements—Archival Package—attribute groups | 65 |
| Table A.3.2.8.4—Object-oriented modeling elements—Archival Package—behavior | 65 |
| Table A.3.2.8.5—Object-oriented modeling elements—Archival Package—notifications | 65 |
| Table A.3.2.9.1—Object-oriented modeling elements—Patient Package—object class items | 65 |
| Table A.3.2.9.2—Object-oriented modeling elements—Patient Package—attributes (<i>multipage table</i>) | 66 |
| Table A.3.2.9.3—Object-oriented modeling elements—Patient Package—attribute groups | 67 |
| Table A.3.2.9.4—Object-oriented modeling elements—Patient Package—behavior | 67 |
| Table A.3.2.9.5—Object-oriented modeling elements—Patient Package—notifications | 67 |
| Table A.3.2.10.1—Object-oriented modeling elements—PHD—object class items | 68 |
| Table A.3.2.10.2—Object-oriented modeling elements—PHD—attributes (<i>multipage table</i>) | 68 |
| Table A.3.2.10.3—Object-oriented modeling elements—PHD—attribute groups | 70 |
| Table A.3.2.10.4—Object-oriented modeling elements—PHD—behavior | 71 |
| Table A.3.2.10.5—Object-oriented modeling elements—PHD—notifications | 71 |
| Table A.3.2.11.1—Object-oriented modeling elements—WCM—object class items | 72 |
| Table A.3.2.11.2—Object-oriented modeling elements—WCM—attributes (<i>multipage table</i>) | 72 |
| Table A.3.2.11.3—Object-oriented modeling elements—WCM—attribute groups | 74 |
| Table A.3.2.11.4—Object-oriented modeling elements—WCM—behavior | 74 |
| Table A.3.2.11.5—Object-oriented modeling elements—WCM—notifications | 74 |
| Table A.3.2.12.1—Object-oriented modeling elements—MEM-LS—object class items | 74 |
| Table A.3.2.12.2—Object-oriented modeling elements—MEM-LS—attributes (<i>multipage table</i>) | 75 |
| Table A.3.2.12.3—Object-oriented modeling elements—MEM-LS—attribute groups | 77 |
| Table A.3.2.12.4—Object-oriented modeling elements—MEM-LS—behavior | 77 |
| Table A.3.2.12.5—Object-oriented modeling elements—MEM-LS—notifications | 77 |
| Table A.3.2.13.1—Object-oriented modeling elements—USI—object class items | 77 |
| Table A.3.2.13.2—Object-oriented modeling elements—USI—attributes | 77 |
| Table A.3.2.13.3—Object-oriented modeling elements—USI—attribute groups | 77 |
| Table A.3.2.13.4—Object-oriented modeling elements—USI—behavior | 78 |
| Table A.3.2.13.5—Object-oriented modeling elements—USI—notifications | 78 |
| Table A.3.2.14.1—Object-oriented modeling elements—Deprecated identifier terms | 78 |
| Table A.4.1—Communication infrastructure—object class items | 79 |
| Table A.4.2—Communication infrastructure—attributes (<i>multipage table</i>) | 80 |
| Table A.4.3—Communication infrastructure—attribute groups | 82 |
| Table A.4.4—Communication infrastructure—behavior | 82 |
| Table A.4.5—Communication infrastructure—notifications | 83 |
| Table A.4.6—Communication infrastructure—profile support attributes | 83 |
| Table A.4.7—Communication infrastructure—optional package identifiers | 83 |
| Table A.4.8—Communication infrastructure—system specification components | 83 |
| Table A.5.1—Nomenclature and codes for vital signs devices (<i>multipage table</i>) | 88 |
| Table A.6.2.1—Table of decimal factors | 99 |
| Table A.6.3.1—Non-SI units (<i>multipage table</i>) | 99 |
| Table A.6.4.1—Vital signs units of measurement (<i>multipage table</i>) | 101 |
| Table A.6.5.1—Withdrawn terms for vital signs units of measurement | 122 |
| Table A.6.6.1—Deprecated terms for vital signs units of measurement | 123 |
| Table A.6.7.1—Deprecated Reflds for vital signs units of measurement | 124 |
| Table A.7.1.3.1—List of standardized ECG <lead> descriptors from SCP-ECG (<i>multipage table</i>) | 130 |
| Table A.7.1.3.2—Nomenclature and codes for ECG lead descriptors from IEEE Std 11073-10101-2004 with discriminator group [LEAD1] (<i>multipage table</i>) | 132 |

This is a preview of "BS EN ISO 11073-1010...". Click here to purchase the full version from the ANSI store.

| | |
|--|-----|
| Table A.7.1.3.3—Nomenclature and codes for ECG lead descriptors from IEEE Std 11073-10102 with discriminator group [LEAD2] (<i>multipage table</i>)..... | 135 |
| Table A.7.1.6.1—Nomenclature and codes for global lead ECG measurements (<i>multipage table</i>)..... | 144 |
| Table A.7.1.6.2—Nomenclature and codes for ECG measurements with lead origin (<i>multipage table</i>).... | 151 |
| Table A.7.1.7.1—Deprecated terms for ECG measurements..... | 156 |
| Table A.7.1.8.1—Deprecated RefIds for ECG measurements defined in IEEE11073-10102 | 156 |
| Table A.7.2.6.1—Nomenclature and codes for ECG enumerations (<i>multipage table</i>) | 160 |
| Table A.7.2.7.1—Withdrawn terms for ECG enumerations | 171 |
| Table A.7.2.8.1—Deprecated terms for ECG enumerations | 171 |
| Table A.7.2.9.1—Deprecated RefIds for ECG enumerations | 172 |
| Table A.7.3.6.1—Nomenclature and codes for haemodynamic monitoring measurements (<i>multipage table</i>) | 176 |
| Table A.7.3.7.1—Deprecated terms for haemodynamic monitoring measurements | 191 |
| Table A.7.4.11.1—Ventilator modes bit string (<i>multipage table</i>) | 200 |
| Table A.7.4.11.2—Ventilator modes nomenclature and codes (<i>multipage table</i>)..... | 202 |
| Table A.7.4.16.1—Correction of gas measurements..... | 206 |
| Table A.7.4.17.1—Gas measurement sites..... | 207 |
| Table A.7.4.17.2—Default gas measurement sites..... | 207 |
| Table A.7.4.18.1—Inspiratory breath type classifications | 209 |
| Table A.7.4.19.1—Deployment of gas partial pressure and concentration and consumption information (informative)..... | 210 |
| Table A.7.4.19.2—Nomenclature and codes for respiratory, ventilator, and anesthesia measurements (<i>multipage table</i>) | 211 |
| Table A.7.4.20.1—Deprecated terms for respiratory measurements..... | 258 |
| Table A.7.4.21.1—Deprecated RefIds for respiratory measurements..... | 258 |
| Table A.7.4.22.1—Recommended mapping of deprecated to ‘unified’ gas RefId prefixes (informative)..... | 259 |
| Table A.7.4.23.1—Deprecated terms for respiratory measurements (<i>multipage table</i>) | 260 |
| Table A.7.4.24.1—Deprecated RefIds for respiratory measurements (<i>multipage table</i>) | 265 |
| Table A.7.4.25.1—Deprecated nomenclature for undefined respiratory measurements from Annex B | 269 |
| Table A.7.4.26.1—Nomenclature and codes for nebulizers (<i>multipage table</i>) | 270 |
| Table A.7.5.6.1—Nomenclature and codes for common blood-gas, blood, urine, and other fluid chemistry measurements (<i>multipage table</i>) | 276 |
| Table A.7.5.7.1—Withdrawn terms for blood-gas, blood, urine, and other fluid chemistry measurements | 287 |
| Table A.7.5.8.1—Deprecated RefIds for blood-gas, blood, urine, and other fluid chemistry measurements | 287 |
| Table A.7.6.6.1—Nomenclature and codes for fluid-output measurements (<i>multipage table</i>) | 290 |
| Table A.7.7.6.1—Nomenclature and codes for pump data (<i>multipage table</i>) | 297 |
| Table A.7.7.7.1—Deprecated RefIds for pump data | 302 |
| Table A.7.7.13.1—Pump modes bit string values (value to be communicated in enumeration observation element Mode Device Pump)..... | 305 |
| Table A.7.7.19.1—Pump states bit string values (value to be communicated in EnumerationObservation with code: Status Operational Device Pump)..... | 308 |
| Table A.7.8.6.1—Nomenclature and codes for neurological monitoring measurements (<i>multipage table</i>) | 313 |
| Table A.7.9.6.1—Nomenclature and codes for neurophysiologic enumerations (<i>multipage table</i>)..... | 330 |
| Table A.7.10.6.1—Nomenclature and codes for neurophysiologic stimulation modes (<i>multipage table</i>) .. | 349 |
| Table A.7.11.6.1—Nomenclature and codes for miscellaneous measurements | 355 |
| Table A.7.11.6.2—Nomenclature and codes for temperature (<i>multipage table</i>)..... | 356 |
| Table A.7.11.7.1—Deprecated nomenclature for temperature..... | 357 |
| Table A.7.11.8.1—Body weight and surface area for pre-coordinated RefIds..... | 358 |
| Table A.7.11.9.1—Nomenclature and codes for body mass (weight) and estimates | 359 |
| Table A.7.12.1.1—Nomenclature and code extensions for infant incubator and warmer microenvironments (<i>multipage table</i>) | 360 |
| Table A.7.13.6.1—Nomenclature and codes for spirometry measurements (<i>multipage table</i>) | 364 |

This is a preview of "BS EN ISO 11073-1010...". [Click here to purchase the full version from the ANSI store.](#)

| | |
|--|-----|
| Table A.7.14.1.1—Nomenclature and code extensions for personal health devices (<i>multipage table</i>)..... | 372 |
| Table A.7.14.2.1—Deprecated RefIds for personal health devices..... | 376 |
| Table A.8.2.5.1—Nomenclature and codes for sites for neurophysiological signal monitoring: locations near peripheral nerves (<i>multipage table</i>)..... | 381 |
| Table A.8.3.5.1—Nomenclature and codes for sites for neurophysiological signal monitoring: locations near or in muscles (<i>multipage table</i>)..... | 398 |
| Table A.8.4.6.1—Nomenclature and codes for electrode sites for EEG according to the international 10–20 system (<i>multipage table</i>)..... | 433 |
| Table A.8.5.6.1—Nomenclature and codes for sites for EOG signal monitoring (<i>multipage table</i>)..... | 441 |
| Table A.8.6.5.1—Nomenclature and codes for general neurological sites for monitoring measurements and drainage..... | 444 |
| Table A.8.7.5.1—Nomenclature and codes for body sites for cardiovascular measurements (<i>multipage table</i>)..... | 447 |
| Table A.8.8.5.1—Nomenclature and codes for miscellaneous body sites used in vital signs monitoring and measurement (<i>multipage table</i>)..... | 454 |
| Table A.8.9.5.1—Nomenclature and codes for external sites used in vital signs monitoring and measurement..... | 467 |
| Table A.8.10.6.1—Nomenclature and codes for qualifiers of body site locations (<i>multipage table</i>)..... | 470 |
| Table A.9.2.5.1—Nomenclature and codes for pattern events (<i>multipage table</i>)..... | 475 |
| Table A.9.3.5.1—Nomenclature and codes for device-related and environment-related events (<i>multipage table</i>)..... | 491 |
| Table A.9.3.6.1—Deprecated terms for device-related and environment-related events..... | 518 |
| Table A.9.3.7.1—Deprecated RefIds for device-related and environment-related events..... | 518 |
| Table A.10.2.3.1—Nomenclature and codes for infrastructure, device specialization (<i>multipage table</i>)... | 520 |
| Table A.10.2.4.1—Withdrawn terms for device specialization..... | 522 |
| Table A.10.3.3.1—Nomenclature and codes for Infrastructure, sub-specialization (<i>multipage table</i>)..... | 523 |
| Table A.10.4.3.1—Time synchronization profiles..... | 526 |
| Table A.11.2.3.1—Nomenclature and codes for PHD Disease Management, general..... | 527 |
| Table A.11.3.3.1—Nomenclature and codes for PHD Disease Management, Basic ECG sensors..... | 528 |
| Table A.11.4.3.1—Nomenclature and codes for PHD Disease Management, Basic ECG event context ... | 529 |
| Table A.11.5.3.1—Nomenclature and codes for PHD Disease Management, SABTE sensors and settings (<i>multipage table</i>)..... | 530 |
| Table A.11.5.4.1—Withdrawn terms for PHD Disease Management, SABTE sensors and settings (<i>multipage table</i>)..... | 536 |
| Table A.11.6.3.1—Nomenclature and codes for PHD Disease Management, SABTE mode settings (<i>multipage table</i>)..... | 540 |
| Table A.11.7.3.1—Nomenclature and codes for PHD Disease Management, Glucose carbohydrate source..... | 542 |
| Table A.11.8.3.1—Nomenclature and codes for PHD Disease Management, Glucose carbohydrate source..... | 543 |
| Table A.11.9.3.1—Nomenclature and codes for PHD Disease Management, Glucose moncarbohydrate sources..... | 544 |
| Table A.11.10.3.1—Nomenclature and codes for PHD Disease Management, Glucose Monitoring, insulin type..... | 545 |
| Table A.11.11.3.1—Nomenclature and codes for PHD Disease Management, insulin types..... | 546 |
| Table A.11.12.3.1—Nomenclature and codes for PHD Disease Management, general health..... | 547 |
| Table A.11.13.3.1—Nomenclature and codes for PHD Disease Management, general health..... | 548 |
| Table A.11.14.3.1—Nomenclature and codes for PHD Disease Management, Glucose Monitoring, sample location..... | 549 |
| Table A.11.15.3.1—Nomenclature and codes for PHD Disease Management, Glucose Monitoring, sample locations..... | 550 |
| Table A.11.16.3.1—Nomenclature and codes for PHD Disease Management, Glucose Monitoring, meal..... | 551 |
| Table A.11.17.3.1—Nomenclature and codes for PHD Disease Management, Glucose Monitoring, meal types..... | 552 |

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| | |
|--|-----|
| Table A.11.18.3.1—Nomenclature and codes for PHD Disease Management, Glucose Monitoring, tester | 553 |
| Table A.11.19.3.1—Nomenclature and codes for PHD Disease Management, Glucose Monitoring, tester types | 554 |
| Table A.11.20.3.1—Nomenclature and codes for PHD Disease Management, INR status and context | 555 |
| Table A.11.21.3.1—Nomenclature and codes for PHD Disease Management, CGM sensors (<i>multipage table</i>) | 556 |
| Table A.11.22.3.1—Nomenclature and codes for PHD Disease Management, CGM sensors | 558 |
| Table A.11.23.3.1—Nomenclature and codes for PHD Disease Management, CGM device | 559 |
| Table A.11.24.3.1—Nomenclature and codes for PHD Disease Management, Insulin Pump (<i>multipage table</i>) | 560 |
| Table A.11.24.4.1—Deprecated term codes for PHD Disease Management, Insulin Pump | 562 |
| Table A.11.25.4.1—Nomenclature and codes for PHD Disease Management, PSM device | 563 |
| Table A.11.26.2.1—Nomenclature and codes for PHD Disease Management, PSM device | 564 |
| Table A.11.27.3.1—Nomenclature and codes for PHD Disease Management, PEF status | 565 |
| Table A.12.3.2.1—Nomenclature and codes for health and fitness sensors (<i>multipage table</i>) | 567 |
| Table A.12.3.3.1—Deprecated terms for PHD disease management, health and fitness (<i>multipage table</i>) | 569 |
| Table A.12.4.2.1—Nomenclature and codes for health and fitness activity (<i>multipage table</i>) | 570 |
| Table A.12.5.2.1—Nomenclature and codes for health and fitness exercise | 572 |
| Table A.12.6.2.1—Nomenclature and codes for health and fitness specific exercise | 573 |
| Table A.12.6.3.1—Deprecated terms for health and fitness exercise | 574 |
| Table A.13.3.2.1—Nomenclature and codes for assisted living sensors (<i>multipage table</i>) | 577 |
| Table A.13.4.3.1—Nomenclature and codes AI locations, general | 580 |
| Table A.13.5.3.1—Nomenclature and codes AI locations, rooms (<i>multipage table</i>) | 581 |
| Table A.13.6.3.1—Nomenclature and codes AI locations, medical rooms (<i>multipage table</i>) | 585 |
| Table A.13.7.3.1—Nomenclature and codes AI locations, doors and windows | 587 |
| Table A.13.8.3.1—Nomenclature and codes for AI locations, furniture | 588 |
| Table A.13.9.3.1—Nomenclature and codes for AI locations, appliances (<i>multipage table</i>) | 589 |
| Table A.13.10.2.1—Nomenclature and codes for AI events (<i>multipage table</i>) | 591 |
| Table A.13.11.3.1—Nomenclature and codes AI medication dispenser | 594 |
| Table A.14.3.1—Nomenclature for error return codes (<i>multipage table</i>) | 595 |
| Table A.14.4.1—Withdrawn nomenclature for error return codes | 596 |
| Table A.15.7.1—Nomenclature and codes for external nomenclatures and messaging standards (<i>multipage table</i>) | 599 |
| Table A.16.1.1—IHE PCD Alert Communication Management attributes | 602 |
| Table A.16.2.1—IHE PCD Alert Communication Management Notifications | 602 |
| Table A.16.3.1—Continua Services Interface infrastructure attributes | 603 |
| Table A.16.4.1—Continua Services Interface information attributes | 604 |
| Table A.16.5.1—IHE PCD and Continua Services Interface timekeeping information attributes (<i>multipage table</i>) | 605 |
| Table A.16.6.1—Breathing circuit attributes | 607 |
| Table A.16.6.2—Calculation method attribute | 607 |
| Table A.16.7.1—ECG nomenclature attributes | 607 |
| Table C.3.1.1—Device Type [MVC] discriminator set | 844 |
| Table C.3.2.1—Statistical [MMM] discriminator set | 844 |
| Table C.3.3.1—Haemodynamic pressure measurements [SDM] discriminator set | 844 |
| Table C.3.4.1—Rates for countable events [RCE] discriminator set | 845 |
| Table C.3.5.1—Rates for countable neurological events [RCN] discriminator set | 845 |
| Table C.3.6.1—Body Site Orientation (laterally) [LAT] discriminator set | 845 |
| Table C.3.7.1—Units of Measure [UoM] discriminator set | 846 |
| Table C.3.8.1—Unit of Measure (singular) [UoM1] discriminator set | 846 |
| Table C.3.9.1—No Discriminator [1] discriminator set | 847 |
| Table C.3.10.1—Event Discriminator [EVT] discriminator set | 847 |
| Table C.3.11.1—Statistical profile [PN3] discriminator set | 847 |
| Table C.3.12.1—Location Discriminator [LOC] discriminator set | 848 |

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| | |
|---|------|
| Table C.3.13.1—Version of External Nomenclature Discriminator [64] | 849 |
| Table C.3.14.1—ECG lead discriminators [LEAD1] from ISO/IEEE 11073-10101:2004 (<i>multipage table</i>) | 849 |
| Table C.3.15.1—ECG lead discriminators [LEAD2] from ISO/IEEE 11073-10102:2012 (<i>multipage table</i>) | 852 |
| Table C.3.16.1—Equivalent ECG lead discriminators [LEAD] in ISO/IEEE 11073-10101:2004 and ISO/IEEE 11073-10102:2012 (<i>multipage table</i>) | 857 |
| Table C.3.17.1—Comparison of ECG lead discriminators in ISO/IEEE 11073-10101:2004 and ISO/IEEE 11073-10102:2012 (<i>multipage table</i>) | 859 |
| Table C.4.1.1—Object-Oriented—Partition 1 (<i>multipage table</i>) | 862 |
| Table C.4.2.1—SCADA—Partition 2 (<i>multipage table</i>) | 895 |
| Table C.4.3.1—Events and Alerts—Partition 3 (<i>multipage table</i>) | 950 |
| Table C.4.4.1—Dimensions—Partition 4 (<i>multipage table</i>) | 965 |
| Table C.4.5.1—Parameter Groups—Partition 6 | 981 |
| Table C.4.6.1—Body Sites—Partition 7 (<i>multipage table</i>) | 981 |
| Table C.4.7.1—Communication Infrastructure—Partition 8 (<i>multipage table</i>) | 1014 |
| Table C.4.8.1—PHD Disease Management—Partition 128 (<i>multipage table</i>) | 1019 |
| Table C.4.9.1—PHD Health Fitness—Partition 129 (<i>multipage table</i>) | 1025 |
| Table C.4.10.1—PHD Aging Independently—Partition 130 (<i>multipage table</i>) | 1028 |
| Table C.4.11.1—Return Codes—Partition 255 | 1036 |
| Table C.4.12.1—External Nomenclature—Partition 256 (<i>multipage table</i>) | 1036 |
| Table C.4.13.1—Device Settings—Partition 258 (<i>multipage table</i>) | 1037 |
| Table C.4.14.1—Predicted Values—Partition 514 (<i>multipage table</i>) | 1040 |
| Table D.1.1.1—Term code synonyms | 1042 |
| Table D.1.1.2—Term code synonyms | 1042 |
| Table D.1.2.1—RefId synonyms | 1043 |
| Table E.1—Inspiratory breath and inflation types and rates | 1045 |
| Table G.1—Gas measurement sites and anesthesia breathing circuit components (normative) | 1049 |
| Table J.1—Revision history | 1059 |

This is a preview of "BS EN ISO 11073-1010...". Click here to purchase the full version from the ANSI store.

Figures

| | |
|--|------|
| Figure 1—Context-sensitive coding illustration..... | 28 |
| Figure 2—IEEE numbered series standards ISO ASN.1 OID assignments | 30 |
| Figure 3—IEEE 11073-10101-2004 ISO ASN.1 OID assignments..... | 31 |
| Figure 4—HL7 ISO ASN.1 OID assignments..... | 31 |
| Figure A.7.1.1—Basic form | 126 |
| Figure A.7.1.2—Multiform P Wave, 3 Extrema | 126 |
| Figure A.7.1.3—Multiform QRS | 126 |
| Figure A.7.1.4—ST-T morphologies..... | 127 |
| Figure A.7.1.5—Example for measurement of ventricular activation time at different QRS | 128 |
| Figure A.7.1.6—Ventricular activation time..... | 129 |
| Figure A.7.4.1—Gas concentration and partial pressure measurement locations | 207 |
| Figure A.7.4.2—Relationship between breaths and Inflations | 208 |
| Figure A.8.5.1—Schematic diagram of the EOG electrode positions | 438 |
| Figure E.1—Bi-Level pressure waveform with patient <P/> and <S/> breaths | 1044 |
| Figure G.1—Example of bellows-driven ventilator and circuit | 1050 |
| Figure G.2—Example of piston-driven ventilator and circuit | 1051 |
| Figure G.3—Mapleson circuits | 1052 |
| Figure H.1—Term approval and management process | 1053 |

Health informatics—Point-of-care medical device communication

Part 10101: Nomenclature

1. Scope

This standard defines a nomenclature for communication of information from point-of-care medical devices. Primary emphasis is placed on acute care medical devices and patient vital signs information. The nomenclature also supports concepts in an object-oriented information model that is for medical device communication.

2. Normative references

The following normative documents contain provisions that, through reference in this text, constitute provisions of ISO/IEEE 11073-10101. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on ISO/IEEE 11073-10101 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid international standards.

IEEE Std 1073™, IEEE Standard for Medical Device Communications—Overview and Framework.^{1,2}

IEEE Std 11073-10102™-2012, Health informatics—Point-of-care medical device communication—Part 10102: Nomenclature—Annotated ECG.

IEEE Std 11073-10103™-2012, Health informatics—Point-of-care medical device communication—Part 10103: Nomenclature—Implantable device, cardiac.

ISO/IEC 8824 (all parts), Information technology — Abstract Syntax Notation One (ASN.1).³

ISO/IEC 8825 (all parts), Information technology —ASN.1 encoding rules.

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³ ISO/IEC documents can be obtained from the International Organization for Standardization (<http://www.iso.ch/>), International Electrotechnical Commission (<http://www.iec.ch/>), and the American National Standards Institute (<http://www.ansi.org/>).