
**Health informatics — Personal health
device communication —**

Part 10207:

**Domain information and service
model for service-oriented point-of-
care medical device communication**

*Informatique de santé — Communication entre dispositifs de santé
personnels —*

*Partie 10207: Informations de domaine et modèle de services pour la
communication orientée services entre dispositifs médicaux sur le site
des soins*

ISO/IEEE 11073-10207:2019

<https://standards.iteh.ai/catalog/standards/iso/b9c88705-9b4c-4567-9fdc-940df26e88a4/iso-ieee-11073-10207-2019>



IEEE

Reference number
ISO/IEEE 11073-10207:2019(E)

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[ISO/IEEE 11073-10207:2019](https://standards.iteh.ai/catalog/standards/iso/b9c88705-9b4c-4567-9fdc-940df26e88a4/iso-ieee-11073-10207-2019)

<https://standards.iteh.ai/catalog/standards/iso/b9c88705-9b4c-4567-9fdc-940df26e88a4/iso-ieee-11073-10207-2019>



COPYRIGHT PROTECTED DOCUMENT

© IEEE 2018

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from IEEE at the address below.

Institute of Electrical and Electronics Engineers, Inc
3 Park Avenue, New York
NY 10016-5997, USA

Email: stds.ipr@ieee.org
Website: www.ieee.org

Published in Switzerland

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted (see www.iso.org/directives).

IEEE Standards documents are developed within the IEEE Societies and the Standards Coordinating Committees of the IEEE Standards Association (IEEE-SA) Standards Board. The IEEE develops its standards through a consensus development process, approved by the American National Standards Institute, which brings together volunteers representing varied viewpoints and interests to achieve the final product. Volunteers are not necessarily members of the Institute and serve without compensation. While the IEEE administers the process and establishes rules to promote fairness in the consensus development process, the IEEE does not independently evaluate, test, or verify the accuracy of any of the information contained in its standards.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

ISO/IEEE 11073-10207 was prepared by the IEEE 11073 Standards Committee of the IEEE Engineering in Medicine and Biology Society (as IEEE Std 11073-10207-2017) and drafted in accordance with its editorial rules. It was adopted, under the “fast-track procedure” defined in the Partner Standards Development Organization cooperation agreement between ISO and IEEE, by Technical Committee ISO/TC 215, *Health informatics*.

A list of all parts in the ISO 11073 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Abstract: Within the context of the ISO/IEEE 11073™ family of standards for point-of-care medical device communication, a Participant Model derived from the ISO/IEEE11073-10201 Domain Information Model is provided in this standard. The Participant Model specifies the structure of medical information objects. This standard also defines an abstract Communication Model to support the exchange of medical information objects. All elements of the Participant Model and Communication Model are specified using XML Schema. Core subjects of the Participant Model comprise modelling of medical device-related data, e.g., measurements and settings, alert systems, contextual information (e.g., patient demographics and location information), remote control, and archival information. Model extensibility is provided inherently through the use of XML Schema.

Keywords: alert systems, IEEE 11073-10207™, medical device communication, patient, point-of-care, remote control, service-oriented architecture, XML Schema

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

ISO/IEEE 11073-10207:2019

<https://standards.iteh.ai/catalog/standards/iso/b9c88705-9b4c-4567-9fdc-940df26e88a4/iso-ieee-11073-10207-2019>

The Institute of Electrical and Electronics Engineers, Inc.
3 Park Avenue, New York, NY 10016-5997, USA

Copyright © 2018 by The Institute of Electrical and Electronics Engineers, Inc.
All rights reserved. Published 21 February 2018. Printed in the United States of America.

IEEE is a registered trademark in the U.S. Patent & Trademark Office, owned by The Institute of Electrical and Electronics Engineers, Incorporated.

PDF: ISBN 978-1-5044-4627-3 STD22961
Print: ISBN 978-1-5044-4628-0 STDPD22961

IEEE prohibits discrimination, harassment, and bullying.

For more information, visit <http://www.ieee.org/web/aboutus/whatis/policies/p9-26.html>.

No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without the prior written permission of the publisher.

Important Notices and Disclaimers Concerning IEEE Standards Documents

IEEE documents are made available for use subject to important notices and legal disclaimers. These notices and disclaimers, or a reference to this page, appear in all standards and may be found under the heading “Important Notices and Disclaimers Concerning IEEE Standards Documents.” They can also be obtained on request from IEEE or viewed at <http://standards.ieee.org/IPR/disclaimers.html>.

Notice and Disclaimer of Liability Concerning the Use of IEEE Standards Documents

IEEE Standards documents (standards, recommended practices, and guides), both full-use and trial-use, are developed within IEEE Societies and the Standards Coordinating Committees of the IEEE Standards Association (“IEEE-SA”) Standards Board. IEEE (“the Institute”) develops its standards through a consensus development process, approved by the American National Standards Institute (“ANSI”), which brings together volunteers representing varied viewpoints and interests to achieve the final product. Volunteers are not necessarily members of the Institute and participate without compensation from IEEE. While IEEE administers the process and establishes rules to promote fairness in the consensus development process, IEEE does not independently evaluate, test, or verify the accuracy of any of the information or the soundness of any judgments contained in its standards.

IEEE does not warrant or represent the accuracy or content of the material contained in its standards, and expressly disclaims all warranties (express, implied and statutory) not included in this or any other document relating to the standard, including, but not limited to, the warranties of: merchantability; fitness for a particular purpose; noninfringement; and quality, accuracy, effectiveness, currency, or completeness of material. In addition, IEEE disclaims any and all conditions relating to: results; and workmanlike effort. IEEE standards documents are supplied “AS IS” and “WITH ALL FAULTS.”

Use of an IEEE standard is wholly voluntary. The existence of an IEEE standard does not imply that there are no other ways to produce, test, measure, purchase, market, or provide other goods and services related to the scope of the IEEE standard. Furthermore, the viewpoint expressed at the time a standard is approved and issued is subject to change brought about through developments in the state of the art and comments received from users of the standard.

In publishing and making its standards available, IEEE is not suggesting or rendering professional or other services for, or on behalf of, any person or entity nor is IEEE undertaking to perform any duty owed by any other person or entity to another. Any person utilizing any IEEE Standards document, should rely upon his or her own independent judgment in the exercise of reasonable care in any given circumstances or, as appropriate, seek the advice of a competent professional in determining the appropriateness of a given IEEE standard.

IN NO EVENT SHALL IEEE BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO: PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE PUBLICATION, USE OF, OR RELIANCE UPON ANY STANDARD, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE AND REGARDLESS OF WHETHER SUCH DAMAGE WAS FORESEEABLE.

Translations

The IEEE consensus development process involves the review of documents in English only. In the event that an IEEE standard is translated, only the English version published by IEEE should be considered the approved IEEE standard.

Official statements

A statement, written or oral, that is not processed in accordance with the IEEE-SA Standards Board Operations Manual shall not be considered or inferred to be the official position of IEEE or any of its committees and shall not be considered to be, or be relied upon as, a formal position of IEEE. At lectures, symposia, seminars, or educational courses, an individual presenting information on IEEE standards shall make it clear that his or her views should be considered the personal views of that individual rather than the formal position of IEEE.

Comments on standards

Comments for revision of IEEE Standards documents are welcome from any interested party, regardless of membership affiliation with IEEE. However, IEEE does not provide consulting information or advice pertaining to IEEE Standards documents. Suggestions for changes in documents should be in the form of a proposed change of text, together with appropriate supporting comments. Since IEEE standards represent a consensus of concerned interests, it is important that any responses to comments and questions also receive the concurrence of a balance of interests. For this reason, IEEE and the members of its societies and Standards Coordinating Committees are not able to provide an instant response to comments or questions except in those cases where the matter has previously been addressed. For the same reason, IEEE does not respond to interpretation requests. Any person who would like to participate in revisions to an IEEE standard is welcome to join the relevant IEEE working group.

Comments on standards should be submitted to the following address:

Secretary, IEEE-SA Standards Board
445 Hoes Lane
Piscataway, NJ 08854 USA

Laws and regulations

Users of IEEE Standards documents should consult all applicable laws and regulations. Compliance with the provisions of any IEEE Standards document does not imply compliance to any applicable regulatory requirements. Implementers of the standard are responsible for observing or referring to the applicable regulatory requirements. IEEE does not, by the publication of its standards, intend to urge action that is not in compliance with applicable laws, and these documents may not be construed as doing so.

Copyrights

IEEE draft and approved standards are copyrighted by IEEE under U.S. and international copyright laws. They are made available by IEEE and are adopted for a wide variety of both public and private uses. These include both use, by reference, in laws and regulations, and use in private self-regulation, standardization, and the promotion of engineering practices and methods. By making these documents available for use and adoption by public authorities and private users, IEEE does not waive any rights in copyright to the documents.

Photocopies

Subject to payment of the appropriate fee, IEEE will grant users a limited, nonexclusive license to photocopy portions of any individual standard for company or organizational internal use or individual, noncommercial use only. To arrange for payment of licensing fees, please contact Copyright Clearance Center, Customer Service, 222 Rosewood Drive, Danvers, MA 01923 USA; +1 978 750 8400. Permission to photocopy portions of any individual standard for educational classroom use can also be obtained through the Copyright Clearance Center.

Updating of IEEE Standards documents

Users of IEEE Standards documents should be aware that these documents may be superseded at any time by the issuance of new editions or may be amended from time to time through the issuance of amendments, corrigenda, or errata. An official IEEE document at any point in time consists of the current edition of the document together with any amendments, corrigenda, or errata then in effect.

Every IEEE standard is subjected to review at least every ten years. When a document is more than ten years old and has not undergone a revision process, it is reasonable to conclude that its contents, although still of some value, do not wholly reflect the present state of the art. Users are cautioned to check to determine that they have the latest edition of any IEEE standard.

In order to determine whether a given document is the current edition and whether it has been amended through the issuance of amendments, corrigenda, or errata, visit the IEEE-SA Website at <http://ieeexplore.ieee.org/xpl/standards.jsp> or contact IEEE at the address listed previously. For more information about the IEEE-SA or IEEE's standards development process, visit the IEEE-SA Website at <http://standards.ieee.org>.

Errata

Errata, if any, for all IEEE standards can be accessed on the IEEE-SA Website at the following URL: <http://standards.ieee.org/findstds/errata/index.html>. Users are encouraged to check this URL for errata periodically.

Patents

Attention is called to the possibility that implementation of this standard may require use of subject matter covered by patent rights. By publication of this standard, no position is taken by the IEEE with respect to the existence or validity of any patent rights in connection therewith. If a patent holder or patent applicant has filed a statement of assurance via an Accepted Letter of Assurance, then the statement is listed on the IEEE-SA Website at <http://standards.ieee.org/about/sasb/patcom/patents.html>. Letters of Assurance may indicate whether the Submitter is willing or unwilling to grant licenses under patent rights without compensation or under reasonable rates, with reasonable terms and conditions that are demonstrably free of any unfair discrimination to applicants desiring to obtain such licenses.

Essential Patent Claims may exist for which a Letter of Assurance has not been received. The IEEE is not responsible for identifying Essential Patent Claims for which a license may be required, for conducting inquiries into the legal validity or scope of Patent Claims, or determining whether any licensing terms or conditions provided in connection with submission of a Letter of Assurance, if any, or in any licensing agreements are reasonable or nondiscriminatory. Users of this standard are expressly advised that determination of the validity of any patent rights, and the risk of infringement of such rights, is entirely their own responsibility. Further information may be obtained from the IEEE Standards Association.

Participants

At the time this standard was submitted to the IEEE-SA Standards Board for approval, the Point of Care Devices Working Group had the following membership:

Jan Wittenber, *Chair*
Stefan Schlichting, *Subgroup Chair*

Bjoern Anderson
Malcolm Clarke
Todd Cooper
Chris Courville
Michael Faughn
Kenneth Fuchs
John Garguilo

Frank Golatowski
David Gregorczyk
Kai Hassing
John Hatcliff
Stefan Karl
Martin Kasparick
Koichiro Matsumoto
Joerg-Uwe Meyer

Stephan Poehlsen
Tracy Rausch
John Rhoads
Paul Schluter
Masato Tanaka
Eugene Vasserman
Stan Wiley

The following members of the individual balloting committee voted on this standard. Balloters may have voted for approval, disapproval, or abstention.

Bjoern Andersen
Susan Burgess
Craig Carlson
Keith Chow
Malcolm Clarke
Todd Cooper
Sourav Dutta
Kenneth Fuchs
Joel Goergen
Frank Golatowski

David Gregorczyk
Randall Groves
Kai Hassing
Robert Heile
Werner Hoelzl
Noriyuki Ikeuchi
Atsushi Ito
Stefan Karl
Piotr Karocki

Martin Kasparick
Joerg-Uwe Meyer
Stephan Poehlsen
Beth Pumo
Stefan Schlichting
Eugene Stoudenmire
Walter Struppler
J. Wiley
Jan Wittenber
Oren Yuen

ISO/IEEE 11073-10207:2019

When the IEEE-SA Standards Board approved this standard on 6 December 2017, it had the following membership:

Jean-Philippe Faure, *Chair*
Gary Hoffman, *Vice Chair*
John D. Kulick, *Past Chair*
Konstantinos Karachalios, *Secretary*

Chuck Adams
Masayuki Ariyoshi
Ted Burse
Stephen Dukes
Doug Edwards
J. Travis Griffith
Michael Janezic

Thomas Kochy
Joseph L. Koepfinger*
Kevin Lu
Daleep Mohla
Damir Novosel
Ronald C. Petersen
Annette D. Reilly

Robby Robson
Dorothy Stanley
Adrian Stephens
Mehmet Ulema
Phil Wennblom
Howard Wolfman
Yu Yuan

*Member Emeritus

Introduction

This introduction is not part of IEEE Std 11073-10207-2017, Health informatics—Point-of-care medical device communication—Part 10207: Domain Information and Service Model for Service-Oriented Point-of-Care Medical Device Communication.

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 of these standards 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 are especially targeted at acute and continuing care devices, such as patient monitors, ventilators, infusion pumps, and electrocardiogram (EKG) devices. This family of standards can be layered together to provide connectivity optimized for the specific devices being interfaced.

Note that normative statements of requirements are presented in this standard in the following manner:

Rnnnn: Statement text here.

where "nnnn" is replaced by a number that is unique among the requirements in this standard and thereby forms a unique requirement identifier, for example,

R0007: All HANDLES SHALL be unique within one MDIB sequence of a SERVICE PROVIDER.

Contents

1. Overview	21
1.1 Scope	21
1.2 Purpose	21
2. Normative references.....	22
3. Definitions and notational conventions	23
3.1 Definitions	23
3.2 Notational conventions	25
4. Introduction to BICEPS.....	28
5. Participant Model	30
5.1 Overview	30
5.2 Background.....	30
5.3 Descriptive part.....	34
5.4 State part.....	41
6. Alert signal delegation.....	49
6.1 General	49
6.2 Delegable alert signals.....	49
6.3 Fallback alert signals	52
7. Communication Model.....	53
7.1 General	53
7.2 Message exchange patterns.....	53
7.3 Service Model.....	54
7.4 Message Model.....	59
8. Extension Model.....	62
9. Discovery Model	63
9.1 General	63
9.2 Implicit discovery	63
9.3 Explicit discovery	63
10. Nonfunctional requirements	64
10.1 General	64
10.2 Patient safety considerations.....	64
10.3 Cybersecurity considerations.....	64
10.4 Clinical effectiveness.....	65
10.5 Regulatory considerations	65
11. Conformance	66
11.1 Overview	66
11.2 General format.....	66
11.3 ICS tables.....	67
Annex A (normative) Extension Model	70
A.1 Extension	70
A.2 ExtensionType	71

A.3 MustUnderstand	71
Annex B (normative) Participant Model	72
B.1 AbstractAlertDescriptor	74
B.2 AbstractAlertState	74
B.3 AbstractAlertState/@ActivationState	75
B.4 AbstractComplexDeviceComponentDescriptor	75
B.5 AbstractComplexDeviceComponentDescriptor/AlertSystem	76
B.6 AbstractComplexDeviceComponentDescriptor/Sco	77
B.7 AbstractComplexDeviceComponentState	78
B.8 AbstractContextDescriptor	79
B.9 AbstractContextState	80
B.10 AbstractContextState/@ContextAssociation	81
B.11 AbstractContextState/@BindingMdibVersion	81
B.12 AbstractContextState/@UnbindingMdibVersion	81
B.13 AbstractContextState/@BindingStartTime	82
B.14 AbstractContextState/@BindingEndTime	82
B.15 AbstractContextState/Validator	82
B.16 AbstractContextState/Identification	83
B.17 AbstractDescriptor	83
B.18 AbstractDescriptor/@Handle	84
B.19 AbstractDescriptor/@DescriptorVersion	84
B.20 AbstractDescriptor/@SafetyClassification	84
B.21 AbstractDescriptor/Type	85
B.22 AbstractDeviceComponentDescriptor	86
B.23 AbstractDeviceComponentDescriptor/ProductionSpecification	86
B.24 AbstractDeviceComponentDescriptor/ProductionSpecification/SpecType	87
B.25 AbstractDeviceComponentDescriptor/ProductionSpecification/ProductionSpec	88
B.26 AbstractDeviceComponentDescriptor/ProductionSpecification/ComponentId	88
B.27 AbstractDeviceComponentState	89
B.28 AbstractDeviceComponentState/@ActivationState	90
B.29 AbstractDeviceComponentState/@OperatingHours	90
B.30 AbstractDeviceComponentState/@OperatingCycles	90
B.31 AbstractDeviceComponentState/CalibrationInfo	90
B.32 AbstractDeviceComponentState/NextCalibration	91
B.33 AbstractDeviceComponentState/PhysicalConnector	92
B.34 AbstractMetricDescriptor	93
B.35 AbstractMetricDescriptor/@MetricCategory	94
B.36 AbstractMetricDescriptor/@DerivationMethod	94
B.37 AbstractMetricDescriptor/@MetricAvailability	95
B.38 AbstractMetricDescriptor/@MaxMeasurementTime	95
B.39 AbstractMetricDescriptor/@MaxDelayTime	95
B.40 AbstractMetricDescriptor/@DeterminationPeriod	96
B.41 AbstractMetricDescriptor/@LifeTimePeriod	96
B.42 AbstractMetricDescriptor/@ActivationDuration	96
B.43 AbstractMetricDescriptor/Unit	97
B.44 AbstractMetricDescriptor/BodySite	98
B.45 AbstractMetricDescriptor/Relation	99
B.46 AbstractMetricDescriptor/Relation/@Kind	100
B.47 AbstractMetricDescriptor/Relation/@Entries	100
B.48 AbstractMetricDescriptor/Relation/Code	101
B.49 AbstractMetricDescriptor/Relation/Identification	102
B.50 AbstractMetricState	103
B.51 AbstractMetricState/@ActivationState	104
B.52 AbstractMetricState/@ActiveDeterminationPeriod	104
B.53 AbstractMetricState/@LifeTimePeriod	104

B.54 AbstractMetricState/BodySite.....	105
B.55 AbstractMetricState/PhysicalConnector	106
B.56 AbstractMetricValue	106
B.57 AbstractMetricValue/@StartTime	107
B.58 AbstractMetricValue/@StopTime	107
B.59 AbstractMetricValue/@DeterminationTime	107
B.60 AbstractMetricValue/MetricQuality	107
B.61 AbstractMetricValue/MetricQuality/@Validity	108
B.62 AbstractMetricValue/MetricQuality/@Mode	108
B.63 AbstractMetricValue/MetricQuality/@Qi	108
B.64 AbstractMetricValue/Annotation	109
B.65 AbstractMetricValue/Annotation/Type	109
B.66 AbstractMultiState	110
B.67 AbstractMultiState/@Handle	111
B.68 AbstractMultiState/Category	111
B.69 AbstractOperationDescriptor	112
B.70 AbstractOperationDescriptor/@OperationTarget	113
B.71 AbstractOperationDescriptor/@MaxTimeToFinish	113
B.72 AbstractOperationDescriptor/@InvocationEffectiveTimeout	113
B.73 AbstractOperationDescriptor/@Retriggerable	113
B.74 AbstractOperationDescriptor/@AccessLevel	114
B.75 AbstractOperationState	114
B.76 AbstractOperationState/@OperatingMode	115
B.77 AbstractSetStateOperationDescriptor	115
B.78 AbstractSetStateOperationDescriptor/ModifiableData	116
B.79 AbstractState	116
B.80 AbstractState/@StateVersion	117
B.81 AbstractState/@DescriptorHandle	117
B.82 AbstractState/@DescriptorVersion	117
B.83 ActivateOperationDescriptor	118
B.84 ActivateOperationDescriptor/Argument	119
B.85 ActivateOperationDescriptor/Argument/ArgName	119
B.86 ActivateOperationDescriptor/Argument/Arg	120
B.87 ActivateOperationState	120
B.88 AlertConditionDescriptor	121
B.89 AlertConditionDescriptor/@Kind	122
B.90 AlertConditionDescriptor/@Priority	122
B.91 AlertConditionDescriptor/@DefaultConditionGenerationDelay	122
B.92 AlertConditionDescriptor/@CanEscalate	122
B.93 AlertConditionDescriptor/@CanDeescalate	123
B.94 AlertConditionDescriptor/Source	123
B.95 AlertConditionDescriptor/CauseInfo	123
B.96 AlertConditionState	124
B.97 AlertConditionState/@ActualConditionGenerationDelay	125
B.98 AlertConditionState/@ActualPriority	125
B.99 AlertConditionState/@Rank	125
B.100 AlertConditionState/@Presence	125
B.101 AlertConditionState/@DeterminationTime	125
B.102 AlertSignalDescriptor	126
B.103 AlertSignalDescriptor/@ConditionSignaled	127
B.104 AlertSignalDescriptor/@Manifestation	127
B.105 AlertSignalDescriptor/@Latching	128
B.106 AlertSignalDescriptor/@DefaultSignalGenerationDelay	128
B.107 AlertSignalDescriptor/@MinSignalGenerationDelay	128
B.108 AlertSignalDescriptor/@MaxSignalGenerationDelay	128
B.109 AlertSignalDescriptor/@SignalDelegationSupported	128

B.110 AlertSignalDescriptor/@AcknowledgementSupported	128
B.111 AlertSignalDescriptor/@AcknowledgeTimeout	129
B.112 AlertSignalState	129
B.113 AlertSignalState/@ActualSignalGenerationDelay	130
B.114 AlertSignalState/@Presence	130
B.115 AlertSignalState/@Location	130
B.116 AlertSignalState/@Slot	130
B.117 AlertSystemDescriptor	131
B.118 AlertSystemDescriptor/@MaxPhysiologicalParallelAlarms	132
B.119 AlertSystemDescriptor/@MaxTechnicalParallelAlarms	132
B.120 AlertSystemDescriptor/@SelfCheckPeriod	132
B.121 AlertSystemDescriptor/AlertCondition	132
B.122 AlertSystemDescriptor/AlertSignal	133
B.123 AlertSystemState	134
B.124 AlertSystemState/@LastSelfCheck	135
B.125 AlertSystemState/@SelfCheckCount	135
B.126 AlertSystemState/@PresentPhysiologicalAlarmConditions	135
B.127 AlertSystemState/@PresentTechnicalAlarmConditions	135
B.128 AlertSystemState/SystemSignalActivation	136
B.129 ApprovedJurisdictions	136
B.130 ApprovedJurisdictions/ApprovedJurisdiction	137
B.131 BaseDemographics	137
B.132 BaseDemographics/Givenname	138
B.133 BaseDemographics/Middlename	138
B.134 BaseDemographics/Familyname	138
B.135 BaseDemographics/Birthname	139
B.136 BaseDemographics/Title	139
B.137 BatteryDescriptor	139
B.138 BatteryDescriptor/CapacityFullCharge	140
B.139 BatteryDescriptor/CapacitySpecified	141
B.140 BatteryDescriptor/VoltageSpecified	141
B.141 BatteryState	142
B.142 BatteryState/@ChargeStatus	143
B.143 BatteryState/@ChargeCycles	143
B.144 BatteryState/CapacityRemaining	144
B.145 BatteryState/Voltage	144
B.146 BatteryState/Current	145
B.147 BatteryState/Temperature	145
B.148 BatteryState/RemainingBatteryTime	146
B.149 CalibrationInfo	146
B.150 CalibrationInfo/@ComponentCalibrationState	147
B.151 CalibrationInfo/@Type	147
B.152 CalibrationInfo/@Time	147
B.153 CalibrationInfo/CalibrationDocumentation	147
B.154 CalibrationInfo/CalibrationDocumentation/Documentation	148
B.155 CalibrationInfo/CalibrationDocumentation/CalibrationResult	148
B.156 CalibrationInfo/CalibrationDocumentation/CalibrationResult/Code	149
B.157 CalibrationInfo/CalibrationDocumentation/CalibrationResult/Value	150
B.158 CauseInfo	150
B.159 CauseInfo/RemedyInfo	150
B.160 CauseInfo/Description	151
B.161 ChannelDescriptor	152
B.162 ChannelDescriptor/Metric	153
B.163 ChannelState	154
B.164 ClinicalInfo	155
B.165 ClinicalInfo/Type	156

B.166 ClinicalInfo/Code.....	157
B.167 ClinicalInfo/Criticality	157
B.168 ClinicalInfo/Description.....	158
B.169 ClinicalInfo/RelatedMeasurement	159
B.170 ClinicalInfo/RelatedMeasurement/@Validity.....	159
B.171 ClinicalInfo/RelatedMeasurement/Value.....	160
B.172 ClinicalInfo/RelatedMeasurement/ReferenceRange	160
B.173 ClinicalInfo/RelatedMeasurement/ReferenceRange/Range	161
B.174 ClinicalInfo/RelatedMeasurement/ReferenceRange/Meaning.....	162
B.175 ClockDescriptor	163
B.176 ClockDescriptor/@Resolution	163
B.177 ClockDescriptor/TimeProtocol	164
B.178 ClockState	165
B.179 ClockState/@DateAndTime	166
B.180 ClockState/@RemoteSync.....	166
B.181 ClockState/@Accuracy	166
B.182 ClockState/@LastSet	167
B.183 ClockState/@TimeZone.....	167
B.184 ClockState/@CriticalUse	167
B.185 ClockState/ActiveSyncProtocol.....	167
B.186 ClockState/ReferenceSource.....	168
B.187 CodedValue.....	169
B.188 CodedValue/@Code	170
B.189 CodedValue/@CodingSystem	170
B.190 CodedValue/@CodingSystemVersion	171
B.191 CodedValue/@SymbolicCodeName.....	171
B.192 CodedValue/CodingSystemName.....	171
B.193 CodedValue/ConceptDescription.....	172
B.194 CodedValue/Translation	172
B.195 CodedValue/Translation/@Code	173
B.196 CodedValue/Translation/@CodingSystem	173
B.197 CodedValue/Translation/@CodingSystemVersion.....	173
B.198 ContainmentTree.....	173
B.199 ContainmentTree/Entry.....	174
B.200 ContainmentTreeEntry.....	175
B.201 ContainmentTreeEntry/Type.....	176
B.202 DistributionSampleArrayMetricDescriptor.....	177
B.203 DistributionSampleArrayMetricDescriptor/@Resolution.....	178
B.204 DistributionSampleArrayMetricDescriptor/TechnicalRange.....	179
B.205 DistributionSampleArrayMetricDescriptor/DomainUnit.....	180
B.206 DistributionSampleArrayMetricDescriptor/DistributionRange	181
B.207 DistributionSampleArrayMetricState.....	182
B.208 DistributionSampleArrayMetricState/MetricValue	183
B.209 DistributionSampleArrayMetricState/PhysiologicalRange.....	184
B.210 EnsembleContextDescriptor	185
B.211 EnsembleContextState	186
B.212 EnumStringMetricDescriptor.....	187
B.213 EnumStringMetricDescriptor/AllowedValue.....	188
B.214 EnumStringMetricDescriptor/AllowedValue/Value	188
B.215 EnumStringMetricDescriptor/AllowedValue/Type	189
B.216 EnumStringMetricDescriptor/AllowedValue/Identification	190
B.217 EnumStringMetricDescriptor/AllowedValue/Characteristic	190
B.218 EnumStringMetricState.....	191
B.219 ImagingProcedure	192
B.220 ImagingProcedure/AccessionIdentifier.....	193
B.221 ImagingProcedure/RequestedProcedureId.....	193