

Second edition
2019-03

Health informatics — Personal health device communication —

Part 10419:

Device specialization — Insulin pump

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

Partie 10419: Spécialisation des dispositifs — Pompe à insuline



Reference number
ISO/IEEE 11073-10419:2019(E)

© IEEE 2018



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

Published in Switzerland

This is a preview of "ISO/IEEE 11073-10419...". Click here to purchase the full version from the ANSI store.

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 11073-10419 was prepared by the IEEE 11073 Standards Committee of the IEEE Engineering in Medicine and Biology Society (as IEEE Std 11073-10419-2017) 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*.

This second edition cancels and replaces the first edition (ISO 11073-10419:2016), which has been technically revised.

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.

This is a preview of "ISO/IEEE 11073-10419...". Click here to purchase the full version from the ANSI store.

Abstract: Within the context of the ISO/IEEE 11073 family of standards for device communication, a normative definition of communication between personal telehealth insulin pump devices and compute engines (e.g., cell phones, personal computers, personal health appliances, set top boxes), in a manner that enables plug-and-play interoperability, is established in this standard. 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. The standard defines a common core of communication functionality for personal telehealth insulin pump devices.

Keywords: IEEE 11073-10419™, insulin pump, medical device communication, personal health devices

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 25 January 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 978-1-5044-4291-6 STD22758
Print: ISBN 978-1-5044-4292-3 STDPD22758

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.

This is a preview of "ISO/IEEE 11073-10419...". Click here to purchase the full version from the ANSI store.

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. IEEE Standards are documents developed through scientific, academic, and industry-based technical working groups. Volunteers in IEEE working groups 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 Standards do not guarantee or ensure safety, security, health, or environmental protection, or ensure against interference with or from other devices or networks. Implementers and users of IEEE Standards documents are responsible for determining and complying with all appropriate safety, security, environmental, health, and interference protection practices and all applicable laws and regulations.

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; non-infringement; 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.

This is a preview of "ISO/IEEE 11073-10419...". [Click here to purchase the full version from the ANSI store.](#)

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.

This is a preview of "ISO/IEEE 11073-10419...". Click here to purchase the full version from the ANSI store.

Photocopies

Subject to payment of the appropriate fee, IEEE will grant users a limited, non-exclusive license to photocopy portions of any individual standard for company or organizational internal use or individual, non-commercial 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 Xplore at <http://ieeexplore.ieee.org/> 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 non-discriminatory. 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 Personal Health Devices Working Group had the following membership:

Daidi Zhong, *Chair*
Michael J. Kirwan, *Chair*
Melanie S. Yeung, *Vice Chair*
Akib Uddin, *Vice Chair*

Karsten Aalders	Seungchul Chae	Ken Fuchs
Charles R. Abbruscato	Rahul Chauhan	Jing Gao
Nabil Abujbara	James Cheng	Xuemei Gao
Maher Abuzaid	Peggy Chien	Marcus Garbe
James Agnew	David Chiu	John Garguilo
Haidar Ahmad	Jinyong Choi	Rick Geimer
Manfred Aigner	Chia-Chin Chong	Igor Gejdos
Jorge Alberola	Saeed A. Choudhary	Ferenc Gerbovics
Murtaza Ali	Jinhan Chung	Nicolae Goga
Rolf Ambuehl	Malcolm Clarke	Julian Goldman
David Aparisi	John A. Cogan	Raul Gonzalez Gomez
Paolo Ariano	John T. Collins	Chris Gough
Lawrence Arne	Cory Condek	Channa Gowda
Diego B. Arquillo	Todd H. Cooper	Charles M. Gropper
Serafin Arroyo	David Cornejo	Amit Gupta
Muhammad Asim	Douglas Coup	Jeff Guttmacher
Merat Bagha	Nigel Cox	Rasmus Haahr
Doug Baird	Hans Crommenacker	Christian Habermann
David Baker	Tomio Crosley	Michael Hagerty
Anindya Bakshi	Allen Curtis	Jerry Hahn
Ananth Balasubramanian	Ndifor Cyril Fru	Robert Hall
Sunlee Bang	Jesús Daniel Trigo	Nathaniel Hamming
M. Jonathan Barkley	Eyal Dassau	Rickey L. Hampton
Gilberto Barrón	David Davenport	Sten Hanke
David Bean	Russell Davis	Aki Harma
John Bell	Sushil K. DeKa	Jordan Hartmann
Rudy Belliard	Ciro de la Vega	Kai Hassing
Kathryn M. Bennett	Pedro de-las-Heras-Quiros	Marc Daniel Haunschild
Daniel Bernstein	Jim DelloStritto	Wolfgang Heck
George A. Bertos	Matthew d'Entremont	Nathaniel Heintzman
Chris Biernacki	Kent Dicks	Charles Henderson
Ola Björnsne	Hyoungdo Do	Jun-Ho Her
Thomas Blackadar	Alistair Donaldson	Helen B. Hernandez
Marc Blanchet	Xiaolian Duan	Takashi Hibino
Thomas Bluethner	Brian Dubreuil	Timothy L. Hirou
Douglas P. Bogia	Sourav Dutta	Allen Hobbs
Xavier Boniface	Jakob Ehrensvar	Alex Holland
Shannon Boucousis	Fredrik Einberg	Arto Holopainen
Julius Broma	Michihiro Enokida	Kris Holtzclaw
Lyle G. Bullock	Javier Escayola Calvo	Robert Hoy
Bernard Burg	Mark Estes	Frank Hsu
Chris Burns	Leonardo Estevez	Anne Huang
Anthony Butt	Roger Feeley	Sen-Der Huang
Jeremy Byford-Rew	Hailing Feng	Zhiqiang Huang
Satya Calloji	Bosco T. Fernandes	Ron Huby
Xiaoying Cao	Christoph Fischer	David Hughes
Carole C. Carey	Morten Flintrup	Robert D. Hughes
Craig Carlson	Joseph W. Forler	Jiyoung Huh
Santiago Carot-Nemesio	Russell Foster	Hugh Hunter
Randy W. Carroll	Eric Freudenthal	Hitoshi Ikeda
Simon Carter	Matthias Frohner	Yutaka Ikeda

This is a preview of "ISO/IEEE 11073-10419...". Click here to purchase the full version from the ANSI store.

Philip O. Isaacson	Jinsei Miyazaki	Mark G. Schnell
Atsushi Ito	Erik Moll	Richard A. Schrenker
Michael Jaffe	Darr Moore	Antonio Scorpiniti
Praduman Jain	Carsten Mueglitz	Kwang Seok Seo
Wei Jin	Piotr Murawski	Riccardo Serafin
Danny Jochelson	Soundharya Nagasubramanian	Sid Shaw
Phaneeth Junga	Jae-Wook Nah	Frank Shen
Akiyoshi Kabe	Alex Neefus	Bozhi Shi
Steve Kahle	Trong-Nghia Nguyen-Dobinsky	Min Shih
Tomio Kamioka	Michael E. Nidd	Mazen Shihabi
Kei Kariya	Tetsu Nishimura	Redmond Shouldice
Andy Kaschl	Jim Niswander	Sternly K. Simon
Junzo Kashihara	Hiroaki Niwamoto	Marjorie Skubic
Kohichi Kashiwagi	Thomas Norgall	Robert Smith
Ralph Kent	Anand Noubade	Ivan Soh
Laurie M. Kermes	Yoshiteru Nozoe	Motoki Sone
Ikuo Keshi	Abraham Ofek	Emily Sopensky
Junhyung Kim	Brett Olive	Rajagopalan Srinivasan
Minho Kim	Begonya Otal	Andreas Staubert
Min-Joon Kim	Marco Paleari	Nicholas Steblay
Taekon Kim	Charles Palmer	Lars Steubesand
Tetsuya Kimura	Bud Panjwani	John (Ivo) Stivoric
Alfred Kloos	Carl Pantiskas	Raymond A. Strickland
Jeongmee Koh	Harry P. Pappas	Chandrasekaran Subramaniam
Jean-Marc Koller	Hanna Park	Hermann Suominen
John Koon	Jong-Tae Park	Lee Surprenant
Patty Krantz	Myungeun Park	Ravi Swami
Raymond Krasinski	Soojun Park	Ray Sweidan
Alexander Kraus	Phillip E. Pash	Jin Tan
Ramesh Krishna	TongBi Pei	Yi Tang
Geoffrey Kruse	Lucian Pestritu	Haruyuyki Tatsumi
Falko Kuester	Soren Petersen	John W. Thomas
Rafael Lajara	James Petisce	Jonas Tirén
Pierre Landau	Peter Piction	Alexandra Todiruta
Jaechul Lee	Michael Pliskin	Janet Traub
JongMuk Lee	Varshney Prabodh	Gary Tschautscher
Kyong Ho Lee	Jeff Price	Masato Tsuchid
Rami Lee	Harald Prinzhorn	Ken Tubman
Sungkee Lee	Harry Qiu	Yoshihiro Uchida
Woojae Lee	Arif Rahman	Sunil Unadkat
Yonghee Lee	Tanzilur Rahman	Fabio Urbani
Joe Lenart	Steve Ray	Philipp Urbauer
Kathryn A. Lesh	Phillip Raymond	Laura Vanzago
Catherine Li	Tim Reilly	Alpo Värri
Qiong Li	Barry Reinhold	Dalimar Velez
Patrick Lichter	Brian Reinhold	Rudi Voon
Jisoon Lim	Melvin I. Reynolds	Barry Vornbrock
Joon-Ho Lim	John G. Rhoads	Isobel Walker
John Lin	Jeffrey S. Robbins	David Wang
Wei-Jung Lo	Chris Roberts	Jerry P. Wang
Charles Lowe	Moskowitz Robert	Yao Wang
Don Ludolph	Timothy Robertson	Yi Wang
Christian Luszick	David Rosales	Steve Warren
Bob MacWilliams	Fatemeh Saki	Fujio Watanabe
Srikanth Madhurbotheswaran	Bill Saltzstein	Toru Watsuji
Miriam L. Makhoul	Benedikt Salzbrunn	Mike Weng
Romain Marmot	Giovanna Sannino	Kathleen Wible
Sandra Martinez	Jose A. Santos-Cadenas	Paul Williamson
Miguel Martínez de Espronceda	Stefan Sauermann	Jan Wittenber
Cámara	John Sawyer	Jia-Rong Wu
Peter Mayhew	Guillaume Schatz	Will Wykeham
Jim McCain	Alois Schloegl	Ariton Xhafa
László Meleg	Paul S. Schluter	Dan Xiao
Alexander Mense	Lars Schmitt	Yaxi Yan

This is a preview of "ISO/IEEE 11073-10419...". Click here to purchase the full version from the ANSI store.

Qifeng Yan
Junjie Yang
Ricky Yang
Qiang Yin

Done-Sik Yoo
Jianchao Zeng
Jason Zhang

Zhiqiang Zhang
Thomas Zhao
Miha Zoubek
Szymon Zyskoter

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

John Ballingall
Hector Barron Gonzalez
Lyle G. Bullock
Keith Chow
Joseph El Youssef
Randall Groves
Kai Hassing
Werner Hoelzl

Noriyuki Ikeuchi
Atsushi Ito
Piotr Karocki
Patrick Keith-Hynes
Patrick Kinney
Robert Kircher
Michael J. Kirwan
Nick S. A. Nikjoo
Henry Pinto

Melvin I. Reynolds
Bartien Sayogo
Lars Schmitt
Raymond Strickland
Walter Struppler
Jan Wittenber
Oren Yuen
Daidi Zhong

When the IEEE-SA Standards Board approved this standard on 28 September 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 Koshy
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

This is a preview of "ISO/IEEE 11073-10419...". [Click here to purchase the full version from the ANSI store.](#)

Introduction

This introduction is not part of IEEE Std 11073-10419-2017, Health informatics—Personal health device communication—Part 10419: Device Specialization—Insulin Pump.

ISO/IEEE 11073 standards enable communication between medical devices and external computer systems. This document uses the optimized framework created in ISO/IEEE 11073-20601:2016 and describes a specific, interoperable communication approach for insulin pumps.¹ These standards align with, and draw on, the existing clinically focused standards to provide support for communication of data from clinical or personal health devices (PHDs).

¹Information on references can be found in Clause 2.

This is a preview of "ISO/IEEE 11073-10419...". Click here to purchase the full version from the ANSI store.

Contents

1. Overview	12
1.1 Scope	12
1.2 Purpose	12
1.3 Context	12
2. Normative references.....	13
3. Definitions, acronyms, and abbreviations	13
3.1 Definitions	13
3.2 Acronyms and abbreviations	15
4. Introduction to ISO/IEEE 11073 personal health devices (PHDs).....	16
4.1 General	16
4.2 Introduction to ISO/IEEE 11073-20601 modeling constructs	16
4.3 Compliance with other standards.....	17
5. Insulin pump device concepts and modalities	17
5.1 General	17
5.2 Device types	18
5.3 Collected data	19
5.4 Stored data.....	24
5.5 Scheduled data.....	24
6. Insulin pump domain information model (DIM).....	24
6.1 Overview	24
6.2 Class extensions.....	24
6.3 Object instance diagram	25
6.4 Types of configuration.....	26
6.5 Profiles.....	27
6.6 MDS object.....	27
6.7 Numeric objects.....	30
6.8 Real-time sample array objects.....	45
6.9 Enumeration objects	46
6.10 PM-store objects	51
6.11 Schedule-store objects	56
6.12 Scanner objects	65
6.13 Class extension objects	65
6.14 Insulin pump information model extensibility rules	65
7. Insulin pump service model.....	65
7.1 General	65
7.2 Object access services.....	65
7.3 Object access event report services	69
8. Insulin pump communication model	69
8.1 Overview	69
8.2 Communications characteristics	69
8.3 Association procedure	70
8.4 Configuring procedure.....	71
8.5 Operating procedure	73
8.6 Time synchronization	74

This is a preview of "ISO/IEEE 11073-10419...". Click here to purchase the full version from the ANSI store.

9. Test associations.....	74
9.1 Behavior with standard configuration.....	74
9.2 Behavior with extended configurations	74
10. Conformance	74
10.1 Applicability	74
10.2 Conformance specification	75
10.3 Levels of conformance	75
10.4 Implementation conformance statements (ICSs)	76
Annex A (informative) Bibliography	81
Annex B (normative) Any additional ASN.1 definitions	82
B.1 Device status and insulin pump status bit mapping	82
B.2 Capability-mask	83
B.3 State-flag.....	84
Annex C (normative) Allocation of identifiers.....	86
10.5 General	86
10.6 Definitions of terms and codes	86
10.7 Systematic derivations of terms and codes	88
Annex D (informative) Message sequence examples.....	97
Annex E (normative) Schedule-store class.....	99
E.1 Schedule-store class	99
E.2 Schedule-segment class.....	103
Annex F (normative) Schedule class ASN.1 definitions	107
F.1 ACTION-method-related data types	107
F.2 Data types for new object attributes and object services	107
F.3 Data protocol definitions	110
Annex G (informative) The schedule-store concept.....	111
G.1 General.....	111
G.2 Schedule-store object hierarchy	112
Annex H (informative) Schedule communication model.....	115
H.1 Operating procedure	115
Annex I (informative) Protocol data unit (PDU) examples.....	119
I.1 General	119
I.2 Association information exchange	119
I.3 Configuration information exchange.....	122
I.4 GET MDS attributes service	126
I.5 Data reporting.....	128
I.6 Disassociation.....	128
Annex J (informative) Revision history	129