ISO/IEEE 11073-10419:2019-03 (E)

Health informatics - Personal health device communication - Part 10419: Device specialization - Insulin pump

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

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) Scedule 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