DIN EN ISO/IEEE 11073-10419:2023-11 (E)

Health informatics - Personal health device communication - Part 10419: Device specialization - Insulin pump (ISO/IEEE 11073-10419:2019); English version EN ISO/IEEE 11073-10419:2023

Contents

Page

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