

DIN EN 1064:2006-02 (E)

Health informatics - Standard communication protocol - Computer-assisted electrocardiography; German version EN 1064:2005, text in English

Inhalt	Seite
Foreword	4
Introduction.....	5
1 Scope.....	8
2 Normative references.....	8
3 Terms and definitions	8
3.1 Terms specific to this document	8
3.2 Other technical terms related to this document	10
4 Abbreviations.....	10
5 Definition of the data contents and format	11
5.1 General considerations.....	11
5.2 Specifications for the data structure.....	13
5.3 Pointer section – Section 0	16
5.4 Header information – Patient data / ECG acquisition data – Section 1	18
5.5 Huffman tables – Section 2	39
5.6 ECG lead definition – Section 3	41
5.7 QRS locations, reference beat subtraction zones and protected areas – Section 4.....	44
5.8 Encoded type 0 reference beat data – Section 5.....	46
5.9 Rhythm data – Section 6.....	49
5.10 Global measurements – Section 7.....	50
5.11 Storage of full text interpretive statements – Section 8.....	56
5.12 Storing manufacturer specific interpretive statements and data related to the overreading trail – Section 9.....	58
5.13 Lead measurement block – Section 10.....	58
5.14 Storage of the universal ECG interpretive statement codes – Section 11	61
6 Minimum requirements for encoding and compression of the ECG signal data	64
6.1 Scope and field of application	64
6.2 Introduction.....	64
6.3 ECG compression methodology.....	65
6.4 Main results from investigations on ECG data compression in the SCP-ECG project.....	66
6.5 Minimum requirements for ECG data compression	67
Annex A (normative) Encoding of alphanumeric ECG data in a multilingual environment	69
A.1 General	69
A.2 Scope.....	69
A.3 References and definitions	70
A.4 Values	71
A.5 Control characters.....	72
A.6 Character set encoding.....	73
A.7 Language code	82
A.8 Method for handling unsupported character sets	82
A.9 Summary of the Escape sequences described in this annex for the encoding of free text in SCP-ECG	83
A.10 Examples of encoded text strings	84
Annex B (normative) Definition of compliance with the SCP ECG standard	85
B.1 General	85
B.3 Testing/validation of SCP-ECG data format compatibility	91
B.4 Coding of SCP-ECG compliance	94

Annex C (normative) Methodology and conformance testing of the recommended ECG signal compression technique	95
C.1 General.....	95
C.2 Principles of “HIGH” SCP-ECG data compression	95
C.3 Equations for SCP-ECG data compression	98
C.4 Numerical examples for SCP-ECG data compression.....	123
C.5 Test set of ECGs for conformance testing.....	128
Annex D (informative) Definition of a minimum set of control and query messages for the interchange of ECG data.....	129
D.1 General.....	129
D.2 Message formats.....	129
D.3 State diagrams	138
D.4 Message sequence examples.....	141
D.5 Use of advisory messages.....	143
Annex E (informative) Standard low-level ECG-Cart to host protocol.....	144
E.1 General.....	144
E.2 Data link and physical functional layers	144
E.3 Physical functional layer.....	144
E.4 Remote connection	145
E.5 Data link functional layer	145
Annex F (informative) Universal ECG interpretation statements codes.....	157
F.1 General.....	157
F.2 Constraints.....	157
F.3 Composition of the code and general syntax rules	157
F.4 Acronyms for ECG interpretive statements.....	161
F.5 Overreading of measurement results.....	176
Annex G (informative) Glossary.....	180
Bibliography.....	182
National and international standards	182
References from the ECG standards literature	182
Specific references with respect to ECG data compression	183