DIN EN 14154-4:2023-05 (E)

Water meters - Part 4: Additional functionalities

Contents

Page

European foreword 4

Introduction 5

1 Scope 6

2 Normative references 6

3 Terms and definitions 6

4 General requirements 8
4.1 Types of additional functionality devices and requirements 8
4.2 Connection requirements 8
4.3 Environmental conditions 8
4.4 Security 9
4.4.1 General 9
4.4.2 Software, data and hardware security 9
4.4.3 Firmware upgrade of AFD 9
4.4.4 Software identification 9
4.5 Power supply 9
4.6 Data storage 10
4.7 Clock requirements 10
4.7.1 General 10
4.7.2 Clock synchronisation 10
4.7.3 Clock setting 10
4.8 Marking 10
4.8.1 Requirements 10
4.8.2 Test 11
4.9 Documentation 11
4.9.1 General 11
4.9.2 Declaration of conformity 11
4.9.3 Instruction manual 11
4.10 Display 12
4.10.1 General 12
4.10.2 Requirements 12
4.10.3 Test 12
4.11 Metrological influence 12
4.11.1 Requirement 12
4.11.2 Test 12
4.12 Input to AFD / Output from AFD 13
4.12.1 General 13
4.12.2 Requirement 13
4.12.3 Test 13

5 Additional functionalities 13
5.1 General 13
5.2 Use cases 13
5.2.1 Scheduled read 13
5.2.2 Pre-programmed reading date 14
5.2.3 On demand read 14
5.2.4 History of consumption 14
5.2.5 Background leak 14

5.2.6 Burst 15
5.2.7 Reverse flow 15
5.2.8 Zero flow 16
5.2.9 Tamper of AFD 16
5.2.10 Tamper of meter 16
5.2.11 Battery low 16
5.2.12 Presence of air 17
5.2.13 Access profiles 17

6 Environmental considerations 17

Annex B (informative) Smart Metering, overview, core functionalities and descriptions 19

B.1 General 19
B.2 M2M Gateway 19
B.3 Clusters 20
B.4 Primary Use Cases 20
B.5 Secondary Use Cases 20
B.6 Primary Actors 20
B.7 Actors 20
B.8 Use Cases 20

Annex C (informative) References to EN ISO 4064-1:2017, EN ISO 4064-2:2017, EN ISO 4064-3:2014, EN ISO 4064-4:2014, EN ISO 4064-5:2017 21

Bibliography 24