DIN EN 1434-2:2007-05 (E)

Heat meters - Part 2: Constructional requirements

Contents

Page

Foreword 4

1 Scope 5

2 Normative references 5

3 Temperature sensors 5
3.1 General 5
3.2 Mechanical design 6
3.2.1 General 6
3.2.2 Materials of temperature probe sheath and pocket 6
3.2.3 Dimensions of direct mounted short probes - Type DS 6
3.2.4 Dimensions of direct mounted long probes - Type DL 6
3.2.5 Dimensions of pocket mounted long probes - Type PL 9
3.2.6 Dimensions of temperature pocket 9
3.2.7 Design of short probes with respect to installation 11
3.2.8 Design of long probes with respect to installation 11
3.3 Platinum temperature sensor 12
3.3.1 Specialised definitions for 2 wire temperature probes 12
3.3.2 Resistance characteristics 13
3.3.3 Signal leads 14
3.3.4 Temperature sensors for the 2-wire method 14
3.3.5 Temperature sensors for the 4-wire method 14
3.3.6 Thermal response time 15
3.4 Other temperature sensors 15

4 Flow sensors 15
4.1 Maximum admissible working pressure, PS in bar 15
4.2 Sizes and dimensions 15
4.3 Test signal output 17
4.4 Adjusting device 17

5 Calculators 17
5.1 Mechanical dimensions for calculators for domestic use 17
5.2 Terminals - specification and identification 18
5.2.1 General 18
5.2.2 Terminals for signal leads 18
5.2.3 Terminals for connection to the mains supply 19
5.3 Batteries 20
5.4 Dynamic behaviour 20
5.5 Test signal output 20
5.6 24 h interruption in supply voltage 20

6 Complete meter 20

7 Interfaces between sub-assemblies 20
7.1 Definitions for pulse device interfaces 21
7.1.1 General 21
7.1.2 Electrical connection 21
7.1.3 Classification of pulse output devices 21
7.1.4 Timing and electrical parameters for pulse output devices (other than test signals) 22
7.1.5 Classification of pulse input devices 22

7.1.6 Timing and electrical parameter for pulse input devices 23
7.1.7 Compatibility 23

8 Marking and security seals 24
8.1 Marking 24
8.1.1 General 24
8.1.2 Temperature sensor pairs 24
8.1.3 Pockets 24
8.1.4 Flow sensor 24
8.1.5 Calculator 25
8.1.6 Complete meter 25
8.2 Sites for marking 26
8.3 Security seals 26

Annex A (informative) Examples of temperature sensors 27

Annex B (normative) Input and output test signals 36

Annex C (informative) Low voltage Power Supply for heat meters and their sub-assemblies 39

C.1 Remote supply 39
C.1.1 Voltage (DC or AC) 39
C.1.2 Current available 39
C.1.3 Cabling requirements 39
C.2 Local external DC supply 39
C.2.1 Voltage 39
C.2.2 Other data 40
C.3 Power supply specifications 40

Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2004/22/EC, MID 41

Bibliography 42