DIN EN 12098-1:2013-10 (E)

Controls for heating systems - Part 1: Control equipment for hot water heating systems

Contents

Page

Foreword 4

Introduction 5

1 Scope 6

2 Normative references 6

3 Terms and definitions 6

4 Functionality 12
4.1 Functional objective 12
4.2 Control equipment functionality 13

5 Graphical symbols 13

6 Requirements 13
6.1 Data protection 13
6.2 Characteristic heating curve 13
6.3 Input signal - Sensors 14
6.4 Controller operation modes 15
6.4.1 General 15
6.4.2 Comfort operation mode 15
6.4.3 Economy operation mode 15
6.4.4 Building protection operation mode 16
6.4.5 Automatic operation mode 16
6.5 Frost protection 16
6.6 Additional functions 16
6.6.1 General 16
6.6.2 Summer/Winter switch function 16
6.6.3 Set back function 16
6.6.4 Optimum start function 16
6.6.5 Optimum stop function 16
6.7 Switching times 17
6.8 Manual Emergency Operation Mode (MEOM) 17
6.9 Parameter settings 17
6.10 Factory settings / Default values 17
6.10.1 Characteristic heating curve 17
6.10.2 Switching times / Operating condition 18
6.11 Switching relays 18
6.12 Electrical requirements 18
6.12.1 Electrical connections 18
6.12.2 Supply voltage 18
6.12.3 Electrical safety 18
6.12.4 Electro magnetic compatibility 18
6.13 Degree of protection 18
6.14 Environmentally induced stress due to temperature 18
6.15 Materials 19
6.16 Use of graphical symbols 19

7 Test methods 19

7.1 Data protection 19
7.2 Controller operation modes 19
7.3 Controller characteristic heating curve 19
7.4 Frost protection 24
7.5 Switching times 24
7.6 Manual Emergency Operation Mode 24
7.7 Optimum start-stop function 24
7.7.1 General 24
7.7.2 Test conditions 26
7.7.3 Test run 26
7.7.4 Test results start optimisation 27
7.7.5 Test results stop optimisation 29
7.7.6 Summer/Winter-switch 29
7.8 Set back 29
7.9 Parameter settings 29
7.10 Factory settings 29
7.11 Switching relays 29
7.12 Electrical test 29
7.13 Degrees of protection 30
7.14 Environmental individual stress due to temperature 30

8 Marking 30

9 Documentation 30
9.1 Technical documents 30
9.2 Technical specifications 30
9.2.1 Controller 30
9.2.2 Output signals 31
9.2.3 Input signals (Sensors) 31
9.3 Instruction installation 31
9.4 User guideline 31

Bibliography 32