

DIN EN 257:2024-02 (E)

Mechanical thermostats for gas-burning appliances

Contents		Page
European foreword		4
Introduction		5
1	Scope	7
2	Normative references	7
3	Terms and definitions	7
4	Classification	9
4.1	Classes of control	9
4.2	Groups of control	9
4.3	Classes of control functions	9
4.4	Types of DC supplied controls	10
5	Test conditions and uncertainty of measurements	10
6	Design and construction	10
6.1	General	10
6.2	Mechanical parts of the control	10
6.3	Materials	11
6.4	Gas connections	11
6.5	Electrical parts of the control	11
6.6	Protection against internal faults for the purpose of functional safety	11
6.101	Flow characteristics	11
6.102	Temperature adjustment	11
7	Performance	12
7.1	General	12
7.2	Leak-tightness	13
7.3	Torsion and bending	13
7.4	Rated flow rate	13
7.5	Durability	14
7.6	Performance tests for electronic controls	14
7.7	Long-term performance for electronic controls	14
7.8	Data exchange	14
7.101	Calibration temperature set-point	14
7.102	Backlash	14
7.103	Opening of a snap-acting thermostat with a closed position	15
7.104	Opening pressure and closing pressure for thermostats with a closed position	15
7.105	Operating characteristic of the thermostat	15
7.106	Ambient temperature range of the body	19
7.107	Effect of storage and transport temperatures	19
7.108	Thermal overload of the temperature sensor	20
7.109	Operating torque of the thermostat set-point adjuster	20
7.110	Endurance	20
8	Electrical requirements	22
9	Electromagnetic compatibility (EMC)	22

10	Marking, instructions	22
10.1	Marking	22
10.2	Instructions	22
10.3	Warning notice	23
Annex A (informative)	Abbreviations and Symbols	24
Annex B (informative)	Leak-tightness tests for gas controls - volumetric method	25
Annex C (informative)	Leak-tightness tests for gas controls - pressure loss method	26
Annex D (normative)	Conversion of pressure loss into leakage rate	27
Annex E (normative)	Electrical/electronic component fault modes	28
Annex F (normative)	Additional requirements for safety accessories and pressure accessories as defined in EU Directive 2014/68/EU	29
Annex G (normative)	Materials for pressurized parts	30
Annex H (normative)	Additional materials for pressurized parts	31
Annex I (normative)	Requirements for controls used in DC supplied burners and appliances burning gaseous or liquid fuels	32
Annex J (normative)	Method for the determination of the Safety Integrity Level (SIL)	33
Annex K (normative)	Method for the determination of a Performance Level (PL)	34
Annex L (informative)	Relationship between Safety Integrity Level (SIL) and Performance Level (PL)	35
Annex M (normative)	Reset functions	36
Annex N (informative)	Guidance document on Environmental Aspects	37
Annex O (normative)	Seals of elastomers, cork and synthetic fibre mixtures	38
Annex ZA (informative)	Relationship between this European Standard and the essential requirements of Regulation (EU) 2016/426 aimed to be covered	39
Bibliography		42