

<b>STN</b>	<b>Mechanické termostaty na plynové spotrebiče</b>	<b>STN EN 257</b>  06 1806
------------	--	--------------------------------------

Mechanical thermostats for gas-burning appliances

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 12/22

Obsahuje: EN 257:2022

Oznámením tejto normy sa od 31.10.2025 ruší  
STN EN 257 (06 1806) z decembra 2010

**136059**

EUROPEAN STANDARD

**EN 257**

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2022

ICS 27.060.20

Supersedes EN 257:2010

English Version

## Mechanical thermostats for gas-burning appliances

Thermostats mécaniques pour appareils à gaz

Mechanische Temperaturregler für Gasgeräte

This European Standard was approved by CEN on 8 August 2022.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

## EN 257:2022 (E)

## 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 <i>DC</i> 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

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

**EN 257:2022 (E)****European foreword**

This document (EN 257:2022) has been prepared by Technical Committee CEN/TC 58 “Safety and control devices for burners and appliances burning gaseous or liquid fuels”, the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2023, and conflicting national standards shall be withdrawn at the latest by October 2025.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 257:2010.

The following significant changes compared to the previous edition have been incorporated in this document:

- a) alignment with EN 13611:2019;
- b) requirements from EU Directive 2014/68/EU were not adopted;
- c) updating of Clause 2, normative references;
- d) reference to EN 437 removed;
- e) information on life time for safe function (designed lifetime) added to instructions.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) / Regulation(s).

For relationship with EU Directive(s) / Regulation(s), see informative Annex ZA, which is an integral part of this document.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

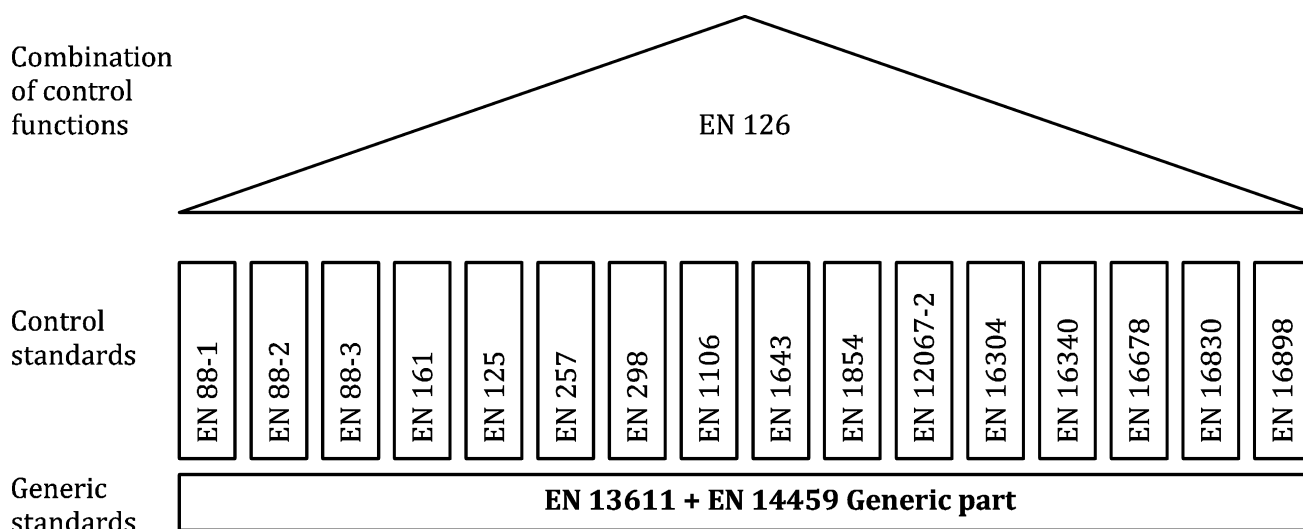
According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

## Introduction

This document is intended to be used in conjunction with EN 13611:2019.

EN 13611:2019 recognizes the safety level specified by CEN/TC 58 and is regarded as a horizontal standard dealing with the safety, construction, performance and testing of controls for burners and appliances burning gaseous and/or liquid fuels.

The general requirements for controls are given in EN 13611:2019, and methods for classification and assessment for new controls and control functions are given in EN 14459:2021 (see Figure 1). EN 126:2012 (see Figure 1) specifies multifunctional controls combining two or more controls and Application Control Functions, one of which is a mechanical control function. The requirements for controls and Application Control Functions are given in the specific control standard (see Figure 1, control functions).



**Figure 1 — Interrelation of control standards**

EN 13611:2019 should be used in conjunction with the specific standard for a specific type of control (e.g. EN 88-1:2022, EN 88-2:2022, EN 88-3:2022, EN 125:2022, EN 126:2012, EN 161:2022, EN 257:2022, EN 298:2022, EN 1106:2022, EN 1643:2022, EN 1854:—<sup>1</sup>, EN 12067-2:2022, EN 16304:2022, EN 16340:2014, EN 16678:2022 and EN 16898:2022), or for controls for specific applications.

EN 13611:2019 can also be applied, so far as reasonable, to controls not mentioned in a specific standard and to controls designed on new principles, in which case additional requirements can be necessary. EN 14459:2021 provides methods for classification and assessment of new control principles.

Primarily in industrial applications it is common practice to rate the safety of a plant based on values describing the likelihood of a dangerous failure. These values are being used to determine Safety Integrity Levels or Performance Levels when the system is being assessed in its entirety.

CEN/TC 58 standards for safety relevant controls do go beyond this approach, because for a certain life time for which the product is specified, designed and tested a dangerous failure is not allowed at all. Failure modes are described and assessed in greater detail.

<sup>1</sup> Under preparation. Stage at the time of publication: FprEN 1854:2022.

**EN 257:2022 (E)**

Measures to prevent from dangerous situations are defined. Field experience over many decades is reflected in the CEN/TC 58 standards. Requirements of EN 13611:2019 can be considered as proven in practice.

This document refers to clauses of EN 13611:2019 or adapts clauses by stating “with the following modification”, “with the following addition”, “is replaced by the following” or “is not applicable” in the corresponding clause.

This document adds clauses or subclauses to the structure of EN 13611:2019 which are particular to this document. Subclauses which are additional to those in EN 13611:2019 are numbered starting from 101. Additional Annexes are designated as Annex AA, Annex BB, Annex CC, etc. It should be noted that these clauses, subclauses and Annexes are not indicated as an addition.

If by reference to EN 13611:2019 the term “control” is given, this term should be read as “thermostat”.

## 1 Scope

EN 13611:2019, Clause 1 applies with the following modification and addition:

Modification:

The 1<sup>st</sup> paragraph of EN 13611:2019, Clause 1 is replaced by:

This document specifies the safety, design, construction, and performance requirements and testing for mechanical thermostats intended for use with gas appliances and similar use, hereafter referred to as “thermostats”.

This document is applicable to thermostats with declared maximum inlet pressures up to and including 50 kPa and of nominal connection sizes up to and including DN 50 for use with one or more fuel gases.

Addition:

This document is applicable to thermostats controlling the gas flow directly or indirectly through an integral gas valve. This document applies to thermostats used with gas appliances which are not installed in the open air.

Thermostats dealt with in this document are intended for control functions.

This document is not applicable to:

- a) controls which use auxiliary energy (e.g. electrical energy supplied externally);
- b) an assessment of the control regarding Performance Level (PL) and Safety Integrity Level (SIL).

The 4<sup>th</sup> paragraph of EN 13611:2019, Clause 1 is removed.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 13611:2019<sup>2</sup>, *Safety and control devices for burners and appliances burning gaseous and/or liquid fuels — General requirements*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**

---

<sup>2</sup> As impacted by EN 13611:2019/AC:2021.