This is a free page sample. Access the full version online.

National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 298:2003

ICS 27.060.20

National Standards
Authority of Ireland
Dublin 9
Ireland

Tel: (01) 807 3800
Tel: (01) 807 3838

AUTOMATIC GAS BURNER CONTROL SYSTEMS FOR GAS BURNERS AND GAS BURNING APPLIANCES WITH OR WITHOUT FANS

This Irish Standard was published under the authority of the National Standards Authority of Ireland and comes into effect on: November 6, 2003

NO COPYING WITHOUT NSAI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW

© NSAI 2003

Price Code M

Údarás um Chaighdeáin Náisiúnta na hÉireann

This is a free page sample. Access the full version online.

This is a free page sample. Access the full version online.

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 298

September 2003

ICS 27.060.20

Supersedes EN 298:1993

English version

Automatic gas burner control systems for gas burners and gas burning appliances with or without fans

Systèmes automatiques de commande et de sécurité pour brûleurs et appareils avec ou sans ventilateur utilisant les combustibles gazeux

Feuerungsautomaten für Gasbrenner und Gasgeräte mit oder ohne Gebläse

This European Standard was approved by CEN on 23 May 2003.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

© 2003 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

Ref. No. EN 298:2003 E

This is a free page sample. Access the full version online.

Contents

Foreword ... 4

Introduction ... 5

1 Scope ... 5

2 Normative references ... 5

3 Terms and definitions ... 6

4 Classification ... 10

5 Conditions for testing and measuring tolerances ... 11

6 Constructional requirements ... 12
6.1 General ... 12
6.2 Protection provided by the enclosure ... 12
6.3 Electrical equipment ... 12
6.4 Electrical components ... 13
6.4.1 Performance of electrical components ... 13
6.4.2 Test ... 13
6.5 Long-term performance ... 13
6.5.1 General ... 13
6.5.2 Stress test and long-term performance test ... 13

7 Functional requirements ... 15
7.1 General ... 15
7.2 Programme ... 16
7.2.1 General ... 16
7.2.2 Safety actions ... 16
7.2.3 Flame failure ... 17
7.2.4 Recycling ... 17
7.2.5 Spark restoration ... 17
7.2.6 Supervision of other external devices during the start-up sequence ... 17
7.2.7 Start following safety shut down ... 17
7.2.8 Inter-purge and inter-waiting time ... 17
7.3 Times ... 17
7.3.1 General ... 17
7.3.2 Purge and waiting times ... 18
7.3.3 Safety times ... 18
7.3.4 Response time in case of flame failure ... 18
7.3.5 Reaction time to achieve safety shut-down ... 18
7.3.6 Reaction time to achieve lock-out ... 18
7.4 Flame detector device ... 18
7.5 Lock-out and reset device ... 19
7.5.1 Lock-out function ... 19
7.5.2 Reset device ... 19
7.6 Performance tests ... 19
7.6.1 At ambient temperature ... 19
7.6.2 At low temperature ... 20
7.6.3 At high temperature ... 20

8 Protection against environmental influences ... 20
8.1 Temperature range ... 20
8.2 Supply voltage variations ... 20
8.2.1 General ... 20
8.2.2 Requirements for operation below 85 % of rated voltage ... 20
8.3 Supply voltage dips, short interruptions and voltage variations immunity ... 21
8.3.1 General ... 21

This is a free page sample. Access the full version online.

8.3.2 Supply voltage dips, short interruptions and voltage variations test 22
8.4 Supply frequency variations 22
8.4.1 General 22
8.4.2 Supply frequency variations test 22
8.5 Surge immunity 23
8.5.1 General 23
8.5.2 Surge immunity test 23
8.6 Electrical fast transient/burst immunity 24
8.6.1 General 24
8.6.2 Electrical fast transient/burst immunity test 24
8.7 Electromagnetic conducted and radiated disturbances induced by radio-frequency fields 24
8.7.1 Immunity to conducted disturbances, induced by radio-frequency fields 24
8.7.2 Immunity to radiated disturbances, induced by radiated fields 25
8.8 Electrostatic discharge immunity 26
8.8.1 General 26
8.8.2 Electrostatic discharge immunity test 27

9 Protection against internal faults 27
9.1 Internal faults 27
9.1.1 General 27
9.1.2 Systems for non-permanent operation: first fault 27
9.1.3 Systems for non-permanent operation: second fault 28
9.1.4 System for permanent operation: first fault 28
9.1.5 System for permanent operation: second fault 28
9.1.6 Systems for permanent and non-permanent operation: faults during lock-out or safety- shut-down 28
9.2 Circuit and construction evaluation 29
9.2.1 Test conditions 29
9.2.2 Test criteria 29

10 Additional requirements for complex electronics 30
10.1 General 30
10.2 Fault avoidance and fault tolerance 30
10.3 Documentation 30
10.4 Assessment 31

11 Marking, installation and operating instructions 31
11.1 Marking 31
11.2 Installation and operating instructions 32
11.3 Warning note 33

Annex A (normative) **Electrical/electronic component fault modes** 34

Annex B (informative) **Functional characteristics of burner control systems, to be given by the appliance standard** 36

Annex C (normative) **Requirements for DC supplied burner** 37
C.1 Scope 37
C.2 Thermal stress test 37
C.3 Long term performance test [by the manufacturer] 37
C.4 At ambient temperature 37
C.5 Supply voltage variations 37
C.6 Supply voltage, supply frequency, surge immunity, electrical fast transient/burst, electromagnetic conducted disturbances 38
C.7 Electrical transient conduction immunity for Type B only 38
C.7.1 General 38
C.7.2 Electrical transient conduction immunity test 39

Annex ZA (informative) **Clauses of this European Standard addressing essential requirements or other provisions of EU Directives** 40

Bibliography 42

This is a free page sample. Access the full version online.

Foreword

This document EN 298:2003 has been prepared by Technical Committee CEN /TC 58, "Safety and control devices for gas-burners and gas-burning appliances", 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 March 2004, and conflicting national standards shall be withdrawn at the latest by September 2006.

This document supersedes EN 298:1993.

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

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

Annexes A and C are normative. Annex B is informative.

This document includes a Bibliography.

This European Standard covers type testing only.

Following a request from CEN/TC 58, CEN has agreed to defer the date of withdrawal of EN 298 :1993 for a transition period of 3 years.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

SAI GLOBAL

This is a free preview. Purchase the entire publication at the link below:

Product Page

Looking for additional Standards? Visit Intertek Inform Infostore

Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation