



National Standards Authority of Ireland

IRISH STANDARD

ENV 1954:1996

ICS 23.060.40

National Standards
Authority of Ireland
Dublin 9
Ireland

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

**INTERNAL AND EXTERNAL FAULT
BEHAVIOUR OF SAFETY RELATED
ELECTRONIC PARTS OF GAS APPLIANCES.**

*This Irish Standard was
published under the
authority of the National
Standards Authority of
Ireland
and comes into effect on
June 30, 1998*

**NO COPYING WITHOUT NSAI
PERMISSION EXCEPT AS
PERMITTED BY COPYRIGHT
LAW**

© NSAI 1996

Price Code P

Údarás um Chaighdeáin Náisiúnta na hÉireann

EUROPEAN PRESTANDARD

ENV 1954

PRÉNORME EUROPÉENNE

EUROPÄISCHE VORNORM

June 1996

ICS 23.060.40; 25.040.40; 27.060.20

Descriptors: gas installation, gas appliances, safety devices, electronic equipment, specifications, classifications, safety, defects, failure

English version

Internal and external fault behaviour of safety related electronic parts of gas appliances

Comportement des parties électroniques intéressant la sécurité dans les appareils utilisant les gaz combustibles, en cas de défauts internes et sous des contraintes externes

Fehlerverhalten von elektronischen Bauteilen mit sicherheitstechnischen Anforderungen in Gasgeräten bei inneren und/oder äußeren Störungen

This European Prestandard (ENV) was approved by CEN on 1995-09-21 as a prospective standard for provisional application. The period of validity of this ENV is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the ENV can be converted into an European Standard (EN).

CEN members are required to announce the existence of this ENV in the same way as for an EN and to make the ENV available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the ENV) until the final decision about the possible conversion of the ENV into an EN is reached.

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

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Contents	Page
Foreword	3
1 Scope	4
2 Normative references	5
3 Definitions	6
3.1 General	6
3.2 Definitions specific to complex electronics	7
4 Requirements	19
4.1 Fault control	19
4.2 Fault avoidance	21
5 Information	24
6 External fault behaviour	26
7 Fault behaviour under external influence	26
7.1 Performance tests	26
7.2 Climatic tests	27
7.3 Supply voltage variations	27
7.4 Supply voltage interruptions or decreases	28
7.5 Supply frequency variations	29
8 Electromagnetic phenomena	30
8.1 Voltage surges	30
8.2 Fast transient burst	31
8.3 Electromagnetic radiation - Immunity	32
8.4 Electrostatic discharges	34
9 Endurance	34
9.1 Design requirements	34
9.2 Test method	35
Annexes	
A (normative) Failure modes for electronic components	37
B (normative) Fault assessment flowcharts	47

Foreword

This European Prestandard 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 Prestandard 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).

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to announce this European Prestandard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This prestandard applies to (programmable) electronic systems for gas installations including safety-relevant electronic actuators, sensors, converters, etc.

When an electronic safety system is designed to conform with the criteria stipulated in these requirements, it will have a safety class at least equal to that of a conventional (non-electronic) system.

For the purposes of evaluating the design of an electronic system, the present requirements recognise three distinct safety classes:

Class A: Control functions which are not intended to be relied upon for the safety of the equipment.

Class B: Control functions intended to prevent unsafe operation of the controlled equipment.

Examples of controls which may include Class B functions are: Thermal cut-outs, pressure cut-outs.

Class C: Control functions which are intended to prevent special hazards or whose failure could directly cause a hazard.

Examples of controls which may include Class C functions are: Automatic burner controls, thermal cut-outs for closed water heater systems (unvented), gas valve proving systems.

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](#)
-