

DIN EN 88-3:2024-02 (E)

Safety and control devices for gas burners and gas burning appliances - Part 3: Pressure and/or flow rate regulators for inlet pressures up to and including 500 kPa, electronic types

Contents		Page
European foreword		4
Introduction		5
1	Scope	7
2	Normative references	7
3	Terms and definitions	8
4	Classification	13
4.1	Classes of control	13
4.2	Groups of control	13
4.3	Classes of control functions	13
4.4	Types of DC supplied controls	13
5	Test conditions and uncertainty of measurements	14
6	Design and construction	14
6.1	General	14
6.2	Mechanical parts of the control	14
6.3	Materials	16
6.4	Gas connections	16
6.5	Electrical parts of the control	17
6.6	Protection against internal faults for the purpose of functional safety	17
7	Performance	18
7.1	General	18
7.2	Leak-tightness	18
7.3	Torsion and bending	19
7.4	Rated flow rate	19
7.5	Durability	20
7.6	Performance tests for electronic controls	20
7.7	Long-term performance for electronic controls	20
7.8	Data exchange	20
7.101	Regulator performance	20
7.102	Regulator performance with respect to application safety	27
8	Electrical requirements	27
8.1	General	27
8.2	Protection by enclosure	27
8.101	Plug connections	27
9	Electromagnetic compatibility (EMC)	28
9.1	Protection against environmental influences	28
9.2	Supply voltage variations below 85 % of rated voltage	28
9.3	Voltage dips and interruptions	28
9.4	Supply frequency variations	28
9.5	Surge immunity tests	28

9.6	Electrical fast transient/burst	28
9.7	Immunity to conducted disturbances induced by radio frequency fields	28
9.8	Immunity to radiated disturbances induced by radio frequency fields	28
9.9	Electrostatic discharge tests	28
9.10	Power frequency magnetic field immunity tests	28
9.11	Harmonics and interharmonics including mains signalling at a. c. power port, low frequency immunity tests	28
10	Marking, instructions	28
10.1	Marking	28
10.2	Instructions	29
10.3	Warning notice	30
Annex A (informative) Abbreviations and Symbols		31
A.1	Abbreviations	31
A.2	Symbols	31
Annex B (informative) Leak-tightness test for gas controls - volumetric method		32
Annex C (informative) Leak-tightness test for gas controls - pressure loss method		33
Annex D (normative) Calculation of pressure loss into leakage rate		34
Annex E (normative) Electrical/electronic component fault modes		35
Annex F (normative) Additional requirements for safety accessories and pressure accessories as defined in EU Directive 2014/68/EU		36
Annex G (normative) Materials for pressurized parts		37
Annex H (normative) Additional materials for pressurized parts		38
Annex I (normative) Requirements for controls used in DC supplied burners and appliances burning gaseous or liquid fuels		39
Annex J (normative) Method for the determination of a Safety integrity level (SIL)		40
Annex K (normative) Method for the determination of a Performance Level (PL)		41
Annex L (informative) Relationship between Safety Integrity Level (SIL) and Performance Level (PL)		42
Annex M (normative) Reset functions		43
Annex N (informative) Guidance document on Environmental Aspects		44
Annex O (normative) Seals of elastomer, cork and synthetic fibre mixtures		45
Annex ZA (informative) Relationship between this European Standard and the essential requirements of Regulation (EU) 2016/426 aimed to be covered		46
Bibliography		49