

ISO 7240-8:2014-12 (E)

Fire detection and alarm systems - Part 8: Point-type fire detectors using a carbon monoxide sensor in combination with a heat sensor

Contents		Page
Foreword		vi
Introduction		viii
1	Scope	1
2	Normative references	1
3	Terms and definitions and abbreviated terms	2
3.1	Terms and definitions	2
3.2	Abbreviated terms	2
4	Requirements	2
4.1	Compliance	2
4.2	Individual alarm indication	2
4.3	Connection of ancillary devices	3
4.4	Monitoring of detachable detectors	3
4.5	Manufacturer's adjustments	3
4.6	On-site adjustment of response behaviour	3
4.7	Rate-sensitive response behaviour	3
4.8	Requirements for software-controlled detectors	4
4.8.1	General	4
4.8.2	Software design	4
4.8.3	The storage of programs and data	4
5	Tests	4
5.1	General	4
5.1.1	Atmospheric conditions for tests	4
5.1.2	Mounting arrangements	4
5.1.3	Operating conditions for tests	5
5.1.4	Tolerances	5
5.1.5	Measurement of CO response value	5
5.1.6	Measurement of heat sensor response value	6
5.1.7	Provision for tests	6
5.1.8	Test schedule	7
5.1.9	Test report	7
5.2	Repeatability of CO response	7
5.2.1	Object of the test	7
5.2.2	Test procedure	7
5.2.3	Requirements	7
5.3	Directional dependence of CO response	8
5.3.1	Object of the test	8
5.3.2	Test procedure	8
5.3.3	Requirements	9
5.4	Directional dependence of heat response	9
5.4.1	Object of the test	9
5.4.2	Test procedure	9
5.4.3	Requirements	9
5.5	Lower limit of heat sensitivity	9
5.5.1	Object of the test	9
5.5.2	Test procedure	9

5.5.3	Requirements	10
5.6	Reproducibility of CO response	10
5.6.1	Object of the test	10
5.6.2	Test procedure	10
5.6.3	Requirements	10
5.7	Reproducibility of heat response	10
5.7.1	Object of the test	10
5.7.2	Test procedure	10
5.7.3	Requirements	11
5.8	Exposure to chemical agents at environmental concentrations	11
5.8.1	Object of the test	11
5.8.2	Test procedure	11
5.8.3	Requirements	11
5.9	Long-term stability of CO response	12
5.9.1	Object of the test	12
5.9.2	Test procedure	12
5.9.3	Requirements	12
5.10	Saturation	12
5.10.1	Object of the test	12
5.10.2	Test procedure	13
5.10.3	Requirements	13
5.11	Exposure to chemical agents which may be present during a fire	13
5.11.1	Object of the test	13
5.11.2	Test procedure	13
5.11.3	Requirements	14
5.12	Variation in supply parameters	14
5.12.1	Object of the test	14
5.12.2	Test procedure	14
5.12.3	Requirements	15
5.13	Air movement	15
5.13.1	Object of the test	15
5.13.2	Test procedure	15
5.13.3	Requirements	15
5.14	Dry heat (operational)	16
5.14.1	Object of the test	16
5.14.2	Test procedure	16
5.14.3	Requirements	16
5.15	Dry heat endurance	16
5.15.1	Object	16
5.15.2	Test procedure	17
5.15.3	Requirements	17
5.16	Cold (operational)	17
5.16.1	Object of the test	17
5.16.2	Test procedure	18
5.16.3	Requirements	18
5.17	Damp heat, cyclic (operational)	19
5.17.1	Object	19
5.17.2	Test procedure	19
5.17.3	Requirements	19
5.18	Damp heat, steady-state (endurance)	20
5.18.1	Object of the test	20
5.18.2	Test procedure	20
5.18.3	Requirements	20
5.19	Low humidity, steady-state (endurance)	21
5.19.1	Object of the test	21
5.19.2	Test procedure	21
5.19.3	Requirements	21
5.20	Sulfur dioxide SO ₂ corrosion (endurance)	22
5.20.1	Object of the test	22
5.20.2	Test procedure	22
5.20.3	Requirements	22
5.21	Shock (operational)	23

5.21.1	Object of the test	23
5.21.2	Test procedure	23
5.21.3	Requirements	24
5.22	Impact (operational)	24
5.22.1	Object of the test	24
5.22.2	Test procedure	24
5.22.3	Requirements	25
5.23	Vibration, sinusoidal, (operational)	25
5.23.1	Object of the test	25
5.23.2	Test procedure	25
5.23.3	Requirements	26
5.24	Vibration, sinusoidal (endurance)	26
5.24.1	Object of the test	26
5.24.2	Test procedure	26
5.24.3	Requirements	27
5.25	Electromagnetic Compatibility (EMC), Immunity tests (operational)	27
5.26	Fire sensitivity	28
5.26.1	Object of the test	28
5.26.2	Test procedure	28
6	Test report	30
7	Marking	30
8	Data	31
8.1	Hardware documentation	31
8.2	Software documentation	31
Annex A (normative) Gas test chamber for CO response value and cross sensitivity measurements		33
Annex B (normative) Heat tunnel for response time and response temperature measurements		34
Annex C (normative) Apparatus for impact test		35
Annex D (normative) Fire test room		37
Annex E (normative) Smouldering (pyrolysis) wood fire (TF2)		39
Annex F (normative) Glowing smouldering cotton fire (TF3)		43
Annex G (normative) Open plastics (polyurethane) fire (TF4)		47
Annex H (normative) Liquid (n-heptane) fire (TF5)		50
Annex I (informative) Information concerning the construction of the gas test chamber		53
Annex J (informative) Construction of the heat tunnel		55