

ISO 7240-15:2014-07 (E)

Fire detection and alarm systems - Part 15: Point-type fire detectors using smoke and heat sensors

Contents		Page
Foreword		v
Introduction		vii
1	Scope	1
2	Normative references	1
3	Terms, definitions, and abbreviations	2
3.1	Terms and definitions	2
3.2	Abbreviated terms	2
4	Requirements	2
4.1	Compliance	2
4.2	Design considerations	2
4.3	Smoke-response value of detectors using scattered or transmitted light	2
4.4	Individual alarm indication	3
4.5	Indication of other conditions	3
4.6	Connection of ancillary devices	3
4.7	Monitoring of detachable detectors	3
4.8	Manufacturer's adjustments	3
4.9	On-site adjustment of response behaviour	3
4.10	Response to slowly developing fires	4
4.11	Protection against ingress of foreign bodies	4
4.12	Software-controlled detectors	4
5	Tests	6
5.1	General	6
5.2	Repeatability of smoke response	9
5.3	Directional dependence of smoke response	10
5.4	Directional dependence of heat response	11
5.5	Reproducibility of smoke response	11
5.6	Reproducibility of heat response	12
5.7	Lower limit of heat response	12
5.8	Air movement	13
5.9	Dazzling	14
5.10	Variation in supply parameters (voltage)	14
5.11	Dry heat (operational)	15
5.12	Cold (operational)	16
5.13	Damp heat, cyclic (operational)	17
5.14	Damp heat, steady-state (endurance)	18
5.15	Sulfur dioxide (SO ₂) corrosion (endurance)	19
5.16	Shock (operational)	20
5.17	Impact (operational)	21
5.18	Vibration, sinusoidal (operational)	22
5.19	Vibration, sinusoidal (endurance)	24
5.20	Electromagnetic compatibility (EMC)	25
5.21	Detectors with more than one smoke sensor -- Optional test	25
5.22	Fire sensitivity	26
6	Test report	28

7	Marking	28
8	Data	29
	Annex A (normative) Compensation for detector drift	30
	Annex B (normative) Smoke tunnel for smoke-response value measurements	35
	Annex C (normative) Heat tunnel for heat-response value measurements	40
	Annex D (normative) Apparatus for the dazzling test	41
	Annex E (normative) Apparatus for the impact test	42
	Annex F (normative) Fire test room	44
	Annex G (normative) Open cellulosic (wood) fire (TF1)	46
	Annex H (normative) Smouldering (pyrolysis) wood fire (TF2)	48
	Annex I (normative) Glowing smouldering cotton fire (TF3)	51
	Annex J (normative) Flaming plastics (polyurethane) fire (TF4)	53
	Annex K (normative) Flaming liquid (n-heptane) fire (TF5)	56
	Annex L (normative) Low-temperature black-smoke liquid (decalin) fire (TF8)	58
	Annex M (informative) Construction of the measuring ionization chamber	60
	Annex N (informative) Construction of the heat tunnel	63