

# ISO 7240-5:2018 (E)

## Fire detection and fire alarm systems — Part 5: Point type heat detectors

---

### Contents

|       |   |
|-------|---|
|       | Foreword  |
|       | Introduction  |
| 1     | Scope   |
| 2     | Normative references  |
| 3     | Terms and definitions   |
| 4     | General requirements  |
| 4.1   | Compliance  |
| 4.2   | Classification  |
| 4.3   | Position of heat sensitive elements                                 |
| 4.4   | Individual alarm indication   |
| 4.5   | Connection of ancillary devices                                     |
| 4.6   | Monitoring of detachable detectors                                  |
| 4.7   | Manufacturer's adjustments  |
| 4.8   | On-site adjustment of response behaviour                            |
| 4.9   | Requirements for software controlled detectors                      |
| 4.9.1 | General   |
| 4.9.2 | Software design   |
| 4.9.3 | The storage of programs and data                                    |
| 5     | Tests   |
| 5.1   | General   |
| 5.1.1 | Atmospheric conditions for tests                                    |
| 5.1.2 | Operating conditions for tests                                      |
| 5.1.3 | Mounting arrangements   |
| 5.1.4 | Tolerances  |
| 5.1.5 | Measurement of response time  |
| 5.1.6 | Provision for tests   |
| 5.1.7 | Test schedule   |
| 5.2   | Directional dependence  |
| 5.2.1 | Object  |
| 5.2.2 | Test procedure  |
| 5.2.3 | Requirements  |
| 5.3   | Static response temperature   |
| 5.3.1 | Object  |
| 5.3.2 | Test procedure  |
| 5.3.3 | Requirements  |
| 5.4   | Response times from typical application temperature                 |
| 5.4.1 | Object  |
| 5.4.2 | Test procedure  |
| 5.4.3 | Requirements  |
| 5.5   | Response times from 25 °C   |
| 5.5.1 | Object  |
| 5.5.2 | Test procedure  |
| 5.5.3 | Requirements  |
| 5.6   | Response times from high ambient temperature (Dry heat operational) |
| 5.6.1 | Object  |
| 5.6.2 | Test procedure  |
| 5.6.3 | Requirements  |
| 5.7   | Variation in supply parameters                                      |
| 5.7.1 | Object  |

|          |   |
|----------|---|
| 5.7.2    | Test procedure  |
| 5.7.3    | Requirements  |
| 5.8      | Reproducibility                                       |
| 5.8.1    | Object  |
| 5.8.2    | Test procedure  |
| 5.8.3    | Requirements  |
| 5.9      | Cold (operational)                                    |
| 5.9.1    | Object  |
| 5.9.2    | Test procedure  |
| 5.9.2.1  | Reference   |
| 5.9.2.2  | State of the specimen(s) during conditioning          |
| 5.9.2.3  | Conditioning  |
| 5.9.2.4  | Measurements during conditioning                      |
| 5.9.2.5  | Final measurements                                    |
| 5.9.3    | Requirements  |
| 5.10     | Dry heat (endurance)                                  |
| 5.10.1   | Object  |
| 5.10.2   | Test procedure  |
| 5.10.2.1 | Reference   |
| 5.10.2.2 | State of the specimen during conditioning             |
| 5.10.2.3 | Conditioning  |
| 5.10.2.4 | Final measurements                                    |
| 5.10.3   | Requirements  |
| 5.11     | Damp heat, cyclic (operational)                       |
| 5.11.1   | Object  |
| 5.11.2   | Test procedure  |
| 5.11.2.1 | Reference   |
| 5.11.2.2 | State of the specimen during conditioning             |
| 5.11.2.3 | Conditioning  |
| 5.11.2.4 | Measurements during conditioning                      |
| 5.11.2.5 | Final measurements                                    |
| 5.11.3   | Requirements  |
| 5.12     | Damp heat, steady state (endurance)                   |
| 5.12.1   | Object  |
| 5.12.2   | Test procedure  |
| 5.12.2.1 | Reference   |
| 5.12.2.2 | State of the specimen(s) during conditioning          |
| 5.12.2.3 | Conditioning  |
| 5.12.2.4 | Final measurements                                    |
| 5.12.3   | Requirements  |
| 5.13     | Sulphur dioxide SO <sub>2</sub> corrosion (endurance) |
| 5.13.1   | Object  |
| 5.13.2   | Test procedure  |
| 5.13.2.1 | Reference   |
| 5.13.2.2 | State of the specimen during conditioning             |
| 5.13.2.3 | Conditioning  |
| 5.13.2.4 | Final measurements                                    |
| 5.13.3   | Requirements  |
| 5.14     | Shock (operational)                                   |
| 5.14.1   | Object  |
| 5.14.2   | Test procedure  |
| 5.14.2.1 | Reference   |
| 5.14.2.2 | State of the specimen during conditioning             |
| 5.14.2.3 | Conditioning  |
| 5.14.2.4 | Measurements during conditioning                      |
| 5.14.2.5 | Final measurements                                    |
| 5.14.3   | Requirements  |
| 5.15     | Impact (operational)                                  |
| 5.15.1   | Object  |
| 5.15.2   | Test procedure  |
| 5.15.2.1 | Apparatus   |
| 5.15.2.2 | State of the specimen during conditioning             |
| 5.15.2.3 | Conditioning  |
| 5.15.2.4 | Measurements during conditioning                      |

|          |   |
|----------|---|
| 5.15.2.5 | Final measurements  |
| 5.15.3   | Requirements  |
| 5.16     | Vibration, sinusoidal, (operational)  |
| 5.16.1   | Object  |
| 5.16.2   | Test procedure  |
| 5.16.2.1 | Reference   |
| 5.16.2.2 | State of the specimen during conditioning                                       |
| 5.16.2.3 | Conditioning  |
| 5.16.2.4 | Measurements during conditioning  |
| 5.16.2.5 | Final measurements  |
| 5.16.3   | Requirements  |
| 5.17     | Vibration, sinusoidal (endurance)   |
| 5.17.1   | Object  |
| 5.17.2   | Test procedure  |
| 5.17.2.1 | Reference   |
| 5.17.2.2 | State of the specimen during conditioning                                       |
| 5.17.2.3 | Conditioning  |
| 5.17.2.4 | Final measurements  |
| 5.17.3   | Requirements  |
| 5.18     | Electromagnetic Compatibility (EMC), Immunity tests (operational)               |
| 5.18.1   | Test procedure  |
| 5.18.1.1 | Reference   |
| 5.18.1.2 | Final measurements  |
| 5.18.2   | Requirements  |
| 5.19     | Test for suffix S detectors   |
| 5.19.1   | Object  |
| 5.19.2   | Test procedure  |
| 5.19.2.1 | Plunge test   |
| 5.19.2.2 | Review of response time data  |
| 5.19.3   | Requirements  |
| 5.20     | Additional test for suffix R detector   |
| 5.20.1   | Object  |
| 5.20.2   | Test procedure  |
| 5.20.3   | Requirements  |
| 6        | Test report   |
| 7        | Marking   |
| 8        | Data  |
| 8.1      | Hardware documentation  |
| 8.2      | Software documentation  |
| Annex A  | (normative) Heat tunnel for response time and response temperature measurements |
| Annex B  | (informative) Information concerning the construction of the heat tunnel        |
| Annex C  | (informative) Derivation of upper and lower limits of response times            |
| C.1      | Upper limits  |
| C.2      | Lower limits  |
| C.3      | Change after environmental tests  |
| Annex D  | (informative) Apparatus for impact test   |