

# Series 700 Intelligent Conventional Fire Detection Range

The 700 Series Intelligent Conventional Fire Detection Range is the first conventional detector range from Johnson Controls that uses algorithms to determine fire conditions more precisely. This provides superior performance and improved false alarm rejection rates.

Through innovative design, the built-in micro-processors in the 700 Series detectors offer built-in drift compensation which extends the life of the detectors, thereby reducing service costs to the customers. Installers only need one fitting to complete the installation.

The 701PH Detector has EN54-29 approval.



## Features

- Designed for fast, easy installation
- Low operational voltage
- Available as smoke, fixed heat, RoR heat, and photo heat
- Backward compatibility with 600 series
- Compatible with 4"B-D, 4B and 5B bases
- Low profile and discreet design
- Approval to EN54, LPCB standards
- Improved detection algorithms
- Built-in drift compensation
- EN54 approval

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## General

The 700 series of detectors are microprocessor-based conventional fire detectors. There are five models in the range, which measure certain parameters and respond to them. The parameters monitored are:

- Smoke density
- Fixed temperature
- Rate of temperature rise

The 700 series of detectors are used for conventional 2-wire detection systems, where detectors will normally be connected in zones. Each detector samples the ambient air every five seconds. If a fire condition is detected, a signalling current is drawn from the zone, causing the fire detection panel to provide an alarm response for the affected zone.

## Series 700 Conventional Detectors

### 701P Smoke Detector

The 701P Smoke Detector operates by sensing the optical scatter from smoke particles generated in a fire. These detectors are suitable for general applications and areas where cable overheating may occur, for example, in electrical services areas.

### 701PH Optical and Heat Detector

The 701PH Optical and Heat Detector is suitable for normal ambient conditions, where the high-performance optical detector behaves as a normal optical detector. Only when a rapid rise in temperature is detected does the sensitivity of the detector increase and the condition change. This is the first conventional detector from Johnson Controls to be certified to the EN54-29 standard for multi-sensors.

### 70xH Heat Detectors

700 series heat detectors include rate-of-rise and fixed-temperature types. These detect high rates of temperature rises, and high temperatures, 60°C and 90°C, respectively. For general use and where ambient temperatures may be low, the 701H rate-of-rise heat detector may be preferred.

In environments where a sudden change in temperature is normal, such as kitchens and canteens, the slower responsiveness of the 702H or 703H fixed-temperature detectors may be suitable.

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## Technical specifications

Table 2: Performance characteristics

|                            |         | 701P                                                        | 701PH      | 701H       | 702H | 703H |
|----------------------------|---------|-------------------------------------------------------------|------------|------------|------|------|
| Operating voltage          | Minimum | 10.5 V                                                      |            |            |      |      |
|                            | Typical | 24 V                                                        |            |            |      |      |
|                            | Maximum | 33 V                                                        |            |            |      |      |
| Average quiescent current  |         | 50 $\mu$ A                                                  | 60 $\mu$ A | 37 $\mu$ A |      |      |
| Switch on surge            |         | 200 $\mu$ A maximum                                         |            |            |      |      |
| Stabilisation time         |         | 30 s typically                                              |            |            |      |      |
| Alarm current <sup>1</sup> |         | 65 mA @ 30 V                                                |            |            |      |      |
|                            |         | 35 mA @ 20 V                                                |            |            |      |      |
|                            |         | 12.5 mA @ 12 V                                              |            |            |      |      |
| Reset voltage              |         | 6.9 V                                                       |            |            |      |      |
| Reset time                 |         | 2 s                                                         |            |            |      |      |
| Remote LED drive           |         | Pulls low from line positive via a 1k resistor <sup>2</sup> |            |            |      |      |

**Note:**

1. Alarm current excluding remote LED current.
2. A drive is provided for a remote indicator connected between the positive supply and the R terminal. Therefore, the polarity of the supply must be known at a detector where a remote indicator is connected.

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## Product Order Codes

|             |                                         |
|-------------|-----------------------------------------|
| 516.900.001 | 701P: Optical smoke detector            |
| 516.900.002 | 701PH: Optical and heat detector        |
| 516.900.003 | 701H: Heat detector - Rate of rise      |
| 516.900.004 | 702H: Heat detector - Fixed 60°C        |
| 516.900.005 | 703H: Heat detector - Fixed 90°C        |
| 516.800.908 | 801 RIL: Remote Indication LED          |
| 540.003.006 | 601 RIL: Remote Indication LED          |
| 577.001.035 | 601SB: Conventional Sounder Base        |
| 577.001.037 | 601SBD: Conventional Diode Sounder Base |
| 568.001.018 | MC600: Relay Base                       |
| 517.050.015 | Volume adjustment tool                  |