

# Photoelectric Smoke Detector

## Model 22051E

### Overview

#### Features

- New mechanical platform with revolutionary chamber offering improved false alarm immunity
  - Improved detection across multiple fire types
  - Improved resilience to false alarms through dust
  - Removed risk of false alarms through insects
- Includes Series 200 Advanced Protocol
- Available with or without single pole short circuit isolation with status control through the Series 200 Advanced Protocol
- Tri colour LED offering red, green and amber colours
- Rotary decade address switches
- Pure white colour to compliment modern buildings
- 100% mechanical and electrical backwards compatibility
- New Base design to compliment the detector



LPS 199 : Issue 12  
Cert 199m/10



### Description

The revolutionary Series 200 Advanced range delivers a totally new detector platform that incorporates the new digital Series 200 Advanced Protocol. The new Protocol delivers more devices on the loop and gives greater control, configurability and device management whilst enabling the overall system to be optimised to the location and use of the building with far greater flexibility than ever before.

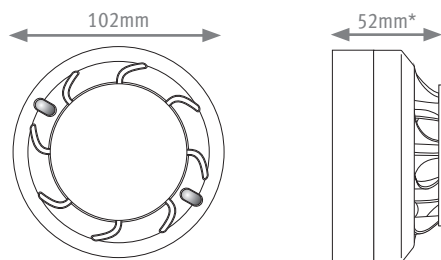
The 22051; photoelectric smoke detector has a completely new detection chamber design, the result of many years of research and design by System Sensor. This delivers improved responsiveness, reduced sensitivity changes caused by settling dust and reduced false alarms resulting from insect ingress and other debris. The plug-in unit uses sophisticated processing circuitry that incorporates smoothing filters to help eliminate transient environmental noise conditions that can be the cause of unwanted alarms. The devices are managed by embedded software running complex algorithms that further improve resilience to false alarms and improve detection speed.

The 22051E has two integral tri-colour LEDs that provide 360° local visual indication of the device status. The LEDs are programmable with static or blinking red, amber and green status indications available.

All Series 200 Advanced detectors are environmentally friendly and meet the WEEE and RoHS legislative requirements, minimising end of life disposal costs, and are mechanically and electrically backwards compatible with existing Series 200 plus devices.

## Architect/Engineer Specifications

22051E



### Electrical Specifications - Standard Product (22051E)

|   |   |
|---|---|
| Operating Voltage Range                     | 15 to 32Vdc   |
| Maximum Standby Current                     | 200µA at 24VDC (no communications) / 300µA at 24VDC ( LED blink enabled, once every 5s) |
| Led Current                                 | Red: 3.5mA at 24Vdc<br>Green: 7.0mA @ 24Vdc<br>Yellow: 10.5mA @ 24Vdc                   |
| Remote Out put Voltage                      | 22.5Vdc @ 24Vdc   |
| Remote Output Current                       | 10.8mA @ 24Vdc  |
| Additional loop resistance using the B501AP | typ 20mohm (max 30 mohm)  |

### Electrical Specifications - Isolator Version (only found in 22051EI)

|                            |                                      |
|----------------------------|--------------------------------------|
| Operating Voltage Range    | 15 to 28.5Vdc                        |
| Isolation Current          | 15mA at 24VDC                        |
| Maximum Continuous Current | 1A (Switch Closed)                   |
| Additional Loop Resistance | typ 80 mohm @24V (max 170mohm @ 15V) |

### Environmental Specifications

|                   |  |
|-------------------|--|
| Temperature Range | -30°C to +70°C <sup>†</sup>                  |
| Humidity          | 10 to 93% relative Humidity (non-condensing) |

### Mechanical Information

|                              |                              |
|------------------------------|------------------------------|
| Height                       | 52mm installed in B501 base  |
| Diameter                     | 102mm installed in B501 base |
| Weight                       | 97g (inc base)               |
| Max Wire Gauge for Terminals | 2.5mm <sup>2</sup>           |
| Colour                       | White                        |
| Material                     | PC/ABS                       |

### Product Range

|                        |  |
|------------------------|--|
| Compatible Bases       | B500 Series (B501, B501DG, B524RTE, B524HTR, B524IEFT-1), B501AP   |
| Other Devices in range | Please refer to other Series 200 Advanced Datasheets<br>22051TE / TEI, 22051TLE / TLEI, 52051RE/REI, 52051E/EI, 52051HTE /HTEI |
| Other Colours in range | Ivory  |

Note \* When installed in a B501AP base

<sup>†</sup> Do not install detectors in locations where normal ambient temperature exceeds 50°C

## System Sensor Europe (Technical Services)

Charles Avenue  
Burgess Hill  
RH15 9TQ  
United Kingdom

Tel: +44 (0)1444 238820

Fax: +44 (0)1444 248123

Email: [sse.technical@systemsensor.com](mailto:sse.technical@systemsensor.com)

[www.systemsensoreurope.com](http://www.systemsensoreurope.com)

Copyright © 2009 System Sensor. All rights reserved.

All technical data is correct at time of publication and is subject to change without notice. All trademarks acknowledged.

Installation information: in order to ensure full functionality, refer to the installation instructions as supplied.

DS22051E-09