

**SmartNet 100 Combi-Detector with Radio Base** S1.DTC0.RB00.1

Combi Optical Smoke and Heat A1R  
Detector with Radio Base

The Cygnus SmartNet wireless fire detection and alarm system is a network of battery powered, wireless fire detection and alarm products suitable for permanent installations, commercial premises and HMOs.

The Combi-Detector is for use with up to 511 other devices, serving small and large sites. It provides smoke and heat detection in a single device.

Other products in the range include: Smoke and Heat Detectors, Manual Call Points, First Aid Alarms, Alarm Interface Unit and Control Panel.



**Overview**

- Reliable wireless mesh radio technology
- Completely wireless – no cables required
- Sensitive radio with up to 350m range
- 868MHz radio (915MHz also available)
- 3+ year battery life
- Designed to be EN 54 compliant
- Certified by Intertek
- Easy configuration via the Windows based CygnusConfig application
- Compatible with other Cygnus SmartNet devices

**Features**

|                  |                                  |
|------------------|----------------------------------|
| Smoke detector   | <b>Optical</b>                   |
| Heat detector    | Type A1R (rate of rise)          |
| Sounder          | No (see SN.DTC0.RB10.1 / RB20.1) |
| Visual indicator | No (see SN.DTC0.RB20.1)          |
| Silent test      | Yes                              |
| Tamper detection | Two (radio base and head)        |

**Parameters**

|                       |                                       |
|-----------------------|---------------------------------------|
| Dimensions (mm)       | 123Ø x 101h (inc combi-detector head) |
| Weight                | 550g                                  |
| Operating temperature | -10°C to +55°C                        |
| Storage temperature   | -10°C to +55°C                        |
| IP rating             | IP21C, Type A (Indoor)                |
| Relative humidity     | >95% @ 25°C to 55°C                   |



| Power                   |  |
|-------------------------|--|
| Operating voltage range | 2.5 to 3.8V (from lithium batteries)                       |
| Main battery            | 3x ER26500 Li-SOCl <sub>2</sub> (lithium thionyl chloride) |
| Backup battery          | 1x CR123 (must be fitted)                                  |
| Battery Voltages        | ER26500 = 3.6V nom. CR123 = 3.0V nom.                      |
| Power consumption       | 3mW  |
| Battery life            | Min 3 years (normal operation)                             |

| Radio                     |   |
|---------------------------|---|
| Radio operating frequency | 865 to 868 MHz                                |
| Radio category            | Category 1                                    |
| Channels                  | 10 (with channel hopping algorithm)           |
| Bandwidth                 | 250kHz  |
| Channel spacing           | 300kHz  |
| Transmit power            | 10mW (maximum)                                |
| Duty cycle                | <0.1%   |
| Protocol                  | Cygnus mesh protocol                          |
| Encryption                | TDES (64-bit payload, 192-bit encryption key) |
| Self-forming              | Cygnus self-forming algorithm                 |
| Self-healing              | Cygnus self-healing algorithm                 |

| Additional Information                 |                          |
|--|--------------------------|
| Heat detector setpoint                 | Type A1R, 55°C (EN 54-5) |
| Smoke nominal response threshold value | 0.12 dB/m (EN 54-7) TBC  |
|  |                          |

## Compliance

### Current:

- ETSI EN 300 220-1 V3.1.1 (2017-02)
- ETSI EN 301 489-1 V2.2.2 (2019-09)
- ETSI EN 301 489-3 V2.1.1 (2019-03)
- EN61000-6-3:2007 +A1:2011
- EN50130-4:2011 +A1:2014
- EN61000-3-2:2014
- EN61000-3-3:2013

- EN 54-5:2017+A1:2018
- EN 54-7:2018
- EN 54-18:2005
- EN 54-25:2008



## IO Functions (for EN 54-18:2005)

### Inputs:

- Radio messaging from other devices
- Combi Heat A1R & Smoke detector
- Installation tamper switch

### Outputs:

- Radio messaging to other devices