

SmartNet-100 Heat Detector with Sounder Radio Base

Part Number: S1.DTH0.RB10.1 / S1.DTH1.RB10.1

Heat Type A1R Detector with Sounder Radio Base

Heat Type B Detector with Sounder 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 Heat Detector with Sounder is available with Type A1R and Type B for use with up to 511 other devices, serving small and large sites. It provides heat detection with sounder and radio 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	No (see SN.DTC / SN.DTS series)
Heat detector	Yes (Type B or A1R)
Sounder	Built into radio base (3 volume settings)
Visual indicator	No (see SN.DTC0.RB30.1)
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 ₂ (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 B: 72°C, Type A1R: 55°C (EN 54-5)
Model SN.DTH0.RB10.1	Type A1R
Model SN.DTH1.RB10.1	Type B

Compliance	Sounder
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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 54-3:2001+A1:2002+A2:2006
- EN 54-5:2017+A1:2018
- EN 54-18:2005
- EN 54-25:2008

Sounder Output (configurable)	85 to 120dB(A) at 1m
Volume Settings	3 levels
Number of Tones	36 configurable tones (10 certified to EN 54)

Ordering Information

Detector Head Options	A1R Heat Detector (Rate of Rise)	SN.DTH0.1
	Type B Heat Detector (72 ⁰) Fixed Temp	SN.DTH1.1
Device Base(s) Options	Sounder Radio Base (White)	S1.RB10.1

Sounder Tones – EN 54-3:2001+A1:2002+A2:2006 Approved

#	Description	Pattern	Low	Med	High
1	554Hz, 0.1s / 440Hz, 0.4s (AFNOR NF S 32 001)		81	87	91
4	500 – 1200Hz, 0.5s / 0.5s OFF x 3 / 1.5s OFF (AS1670 Evacuation)		83	90	93
7	1200Hz – 500Hz @ 1Hz (DIN 33 404)		82	90	94
8	500Hz – 1200Hz, 3.75s / 0.25s OFF (AS2220)		85	91	95
10	970 Hz 0.5s ON/0.5s OFF (ISO 8201 LF BS5839 Pt1 1988)		80	87	91
14	800Hz/970Hz @ 2Hz (FP 1063.1 Telecom) - Default Fire Tone		82	89	92
17	970Hz continuous		81	87	91
22	800Hz – 970Hz @1Hz		84	89	94
26	Dual tone 800/630 Hz @2Hz		80	86	91
30	550Hz, 0.7s / 1000Hz, 0.33s		84	90	94

Sounder Tones – Not Approved

#	Description	Pattern	Low	Med	High
2	500 – 1200Hz, 3.5s / 0.5s OFF (NEN 2575:2000)				
3	420Hz 0.625s ON / 0.625s OFF (Australia AS1670 Alert tone)				
5	970Hz, 0.5s ON / 0.5s OFF x 3 / 1.5s OFF (ISO 8201)				
6	2850Hz (2900), 0.5s ON / 0.5s OFF x 3 / 1.5s OFF (ISO 8201 (US temporal HF))				
9	800 Hz continuous (LF continuous tone BS5839)				
11	2850Hz 0.5s ON/OFF (ISO 8201 HF)				
12	660Hz 0.15s ON / 0.15s OFF (Swedish fire signal)				
13	660Hz (Swedish All clear signal)				
15	1000 – 2500Hz, 0.5s / 0.5s OFF x 3 / 1.5s OFF (AS1670 Evacuation)				
16	950Hz 0.5s ON/ 0.5s OFF x 3 / 1.5s OFF repeat (US temporal LF)				
18	800Hz – 970Hz @ 3Hz				
19	800Hz – 970Hz @ 9Hz				
20	2400Hz continuous				
21	970Hz, 0.5s / 630Hz, 0.5s				
23	800Hz / 970Hz @ 1Hz				
24	2400Hz – 2900Hz @ 9Hz				
25	2400Hz – 2900Hz @ 3Hz				
27	400Hz continuous				
28	550Hz / 440Hz @ 0.5Hz				
29	1500Hz – 2700Hz @ 3Hz				
31	250Hz – 1200Hz @ 12Hz				
32	800 / 1000Hz 0.5s each (1Hz)				
33	Dual tone 800/630 Hz @2Hz – 1s ON / 7s OFF – Default First Aid tone				
34	Silent tone				
35	Test tone 800Hz 0.1s ON / 2s OFF				
36	2200Hz – 3500Hz 125ms / 3500Hz – 2200Hz 125ms (Cygnus 1 tone)				

IO Functions (for EN 54-18:2005)

Inputs:

- Radio messaging from other devices
- Heat A1R detector
- Heat B detector
- Installation tamper switch

Outputs:

- Radio messaging to other devices
- Sounder