

## SmartNet-Pro Ceiling Beacon Visual Alarm Device with Sounder Radio Base

Part Number: SN.VADO.RB10.1 / SN.VADO.RB10.2

### Ceiling Mounting Beacon VAD with Sounder Radio Base (White/Red)

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 Ceiling mounting VAD Beacon with Sounder Radio Base is available for use with up to 511 other devices, serving small and large sites. It provides a beacon with sounder 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

|                  |                                           |
|------------------|-------------------------------------------|
| Beacon           | Ceiling mounting Beacon VAD head          |
| Beacon type      | C-3-9                                     |
| Sounder          | Built into radio base (3 volume settings) |
| Silent test      | Yes                                       |
| Tamper detection | Two (radio base and head)                 |

### Parameters

|                       |                             |
|-----------------------|-----------------------------|
| Dimensions (mm)       | 123Ø x 95h (inc Beacon VAD) |
| Weight                | 482g                        |
| 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 (with Beacon fitted)                                   |
| 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 |       |
|------------------------|-------|
| Model SN.VADO.RB10.1   | White |
| Model SN.VADO.RB10.2   | Red   |

| Compliance                                                                                                                                                                                                                                                                                                                                                                                                                      | Sounder                       |                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-----------------------------------------------|
| <p>Current:</p> <ul style="list-style-type: none"> <li>ETSI EN 300 220-1 V3.1.1 (2017-02)</li> <li>ETSI EN 301 489-1 V2.2.2 (2019-09)</li> <li>ETSI EN 301 489-3 V2.1.1 (2019-03)</li> <li>EN61000-6-3:2007 +A1:2011</li> <li>EN50130-4:2011 +A1:2014</li> <li>EN61000-3-2:2014</li> <li>EN61000-3-3:2013</li> <li>EN 54-3:2001+A1:2002+A2:2006</li> <li>EN 54-18:2005</li> <li>EN 54-23:2010</li> <li>EN 54-25:2008</li> </ul> | Sounder Output (configurable) | 80 to 98dB(A) at 1m                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                 | Volume Settings               | 3 levels                                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                 | Number of Tones               | 36 configurable tones (10 certified to EN 54) |



## Ordering Information

|                        |                               |           |
|------------------------|-------------------------------|-----------|
| Detector Head Options  | VAD Ceiling – Mounted (White) | SN.VAD0.1 |
|                        | VAD Ceiling- Mounted (Red)    | SN.VAD0.2 |
| Device Base(s) Options | Sounder Radio Base (White)    | SN.RB10.1 |
|                        | Sounder Radio Base (Red)      | SN.RB10.2 |

## 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) - <b>Default Fire Tone</b> |         | 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 –<br><b>Default First Aid tone</b> |         |     |     |      |
| 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
- Installation tamper switch

### Outputs:

- Radio messaging to other devices
- Sounder

| Beacon VAD |                                         |                                               |
|------------|-----------------------------------------|-----------------------------------------------|
|            | Beacon                                  | Ceiling mounting Beacon VAD head              |
|            | Beacon type                             | C-3-9                                         |
|            | Flash colour                            | White                                         |
|            | Flash rate                              | 1Hz (1 second) and 0.5Hz (2 seconds)          |
|            | Coverage                                | 190m <sup>3</sup> cylindrical volume coverage |
|            | Operating voltage range                 | 2.5 to 3.8V (from radio base batteries)       |
|            | Beacon Head Power consumption (nominal) | 360mW, 100mA (when flashing)                  |

Installation Information:

The VAD must be installed horizontally on the ceiling.  
There is no preferred orientation for ceiling mounted VADs.

