
Wireless
Cygnus
DEPENDABLE WIRELESS SOLUTIONS

Cygnus Wireless Alarm System

BENEFITS AND FUNCTIONALITY

- Long range radio meshing signal – each alarm is a booster unit
- Waterproof external call points
- First aid alert facility (optional)
- Intruder alert (optional)
- SMS text notifications
- Interface with other fire systems
- Exceptionally easy to install – no wires
- Up to 480 units in one system
- 85–110dB sounders – suitable for office and site environments
- Downloadable history log of all events
- Fully compliant for all areas of construction sites
- Very durable – built for the construction industry

CATEGORY 1

Cygnus is an elite emergency alarm system which is battery powered and connects on a category 1 radio frequency which conforms to EN 300 220 Category 1.

The use of high performance category 1 radios ensures maximum range, even when other strong local signals are present.

THE RADIO TECHNOLOGY

Communication between alarms is based on a mesh protocol which enables access from both point-to-point and multipoint. The addressing system minimises the probability of clashes within the zone ensuring maximum performance. For this reason, correct unit addressing is important and needs to be implemented prior to the installation.

ZONING AND UNIT ADDRESSING

The alarms can operate in a maximum of 15 zones with up to 32 devices per zone. The Cygnus system is capable of controlling all zones from a control panel operating on the same frequency, but distinguished by different zone addresses. In the case of a real alarm, the message is communicated to every device within the site.

- Where there are multiple sites within range of each other, the system operates on unique site addresses in order to keep each system separate and free from interference. This also enables the use of multiple systems on one site.
- Each unit in the system provides the panel with information at regular intervals, i.e. confirmation that each device is still present, and the battery status of each device; this message is known as its heart beat.
- If the system includes a panel, it monitors these messages (Silent Test); if the heartbeat is not heard for several intervals the control panel logs a fault status for that unit.

THE CONTROL PANEL

The Cygnus control panel combines simple installation and user control with optimum performance. It constantly relays data back to the user from devices around the site. Whilst being mains powered, the panel has the ability to run up to one month without power due to a 6v battery backup.

An LCD display screen with LED backlight and alarm buzzer notifies the user of activations and all other events, such as low battery warning and signal faults. These events can be viewed if necessary in the history folder, held on the panel.

CYGNUS CAPABILITIES AND RANGE TEST

Cygnus has been specifically designed for use in dense concrete and steel structured buildings, and areas where there are many other radio frequencies in use. Particular attention has been given therefore to achieving an extremely long range connection. Distances in excess of 1.5km have been recorded in an open air environment. Whilst this range is not guaranteed on site due to limiting obstacles, Cygnus covers impressive distances and huge areas due to a networking meshing system which allows devices to communicate through one another and not directly to the panel.

INSTALLATION

Construction firms and M&E contractors looking to ensure workforce safety will appreciate the simplicity of the Cygnus wireless system which can be easily installed and can be delivered pre-configured to the customer's request, with clearly marked labels on each device if required.

PROTECTION

The Cygnus Wireless Alarm System, manufactured by Bull Products, is a major innovation in wireless emergency fire, first aid and intruder alarms for construction sites. Designed to be the ultimate in performance and reliability, the Cygnus system has raised the bar in the industry and is the most successful and adaptable temporary fire alarm system for use in the construction industry.

The Cygnus system is able to link 480 individual units in 15 different zones. Individual units may vary from fire alarm call points, first aid alert points, smoke detectors, heat detectors, combined fire call point/first aid alert alarm and interface units.

CYG1

Cygnus Control Panel (480 addresses)

The control panel is an optional element of any Cygnus system, used to capture data from up to 480 devices situated around a site. This data includes active alarms and faults and all events are recorded into a file which can be viewed or downloaded. The control panel is mains powered but has its own internal rechargeable battery power source, which fully charged, will last 4 weeks. The panel has other features including an evacuate site function which can be used in case of emergency and is also used to switch intruder sensors on or off.

CYG1-GSM/GPRS

Control Panel with GSM/GPRS Remote Link

The Cygnus GSM control panel has additional functionality to the CYG1 panel. Using a GSM/GPRS modem, activations can be directly reported to a third party monitoring station and/or site personnel via SMS text messaging. The panel can also be accessed from a PC so users can remotely view the system's status from any location. The user can also set parameters remotely, view event logs, activate the PIR sensors and name alarm devices.

CYG6

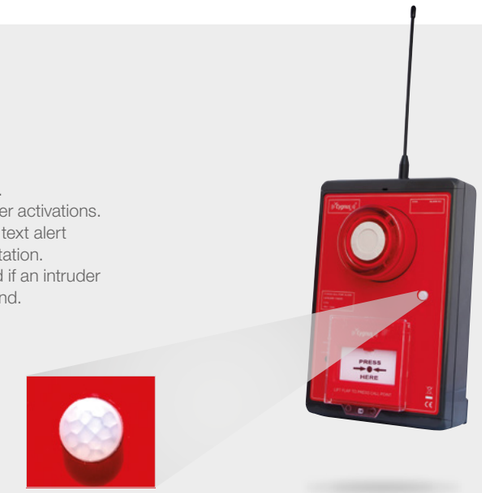
Cygnus Base Panel (32 addresses)

The base panel has been developed as a small site system panel. It is an optional element into the Cygnus system, and is used to capture data from a maximum of 32 devices situated around a site. This panel can be used in conjunction with other Cygnus control panels but due to its limited software has a greatly reduced networking capability than the main Cygnus control panel. The base panel is mains powered but has its own internal rechargeable battery power source, which when fully charged, will last seven days. The panel has other features including an evacuate site function which can be used in case of emergency. The base panel has limited software and functionality compared with the CYG1 Cygnus control panel but is the perfect solution for smaller construction sites.

PIR

PIR Intruder Sensor (Patent GB2530120)

The newly patented PIR intruder functionality is available on all Cygnus alarms. This additional feature helps utilise fire, first aid alarms and detectors for intruder activations. PIR works with the CYG1-GSM/GPRS control panel and sends users an SMS text alert should an intrusion occur. Alerts can also be sent to a third party monitoring station. The sensors are activated by using the menu settings on the control panel and if an intruder passes the sensor when in activated mode, it will cause the local alarm to sound.



CYG2

Cygnus Fire Call Point Alarm

The Cygnus fire call point alarm operates using a single battery pack and can be used externally. This radio alarm device has also been designed as a standalone alarm unit. These devices are IP65 rated and are normally situated around a site in prominent places, on main escape routes, stairwells and on or near fire points, where they are visible in case of an emergency. This alarm has a 110 decibel sounder and an LED beacon for visual alerts. The call point is resettable and can be programmed with a sounder delay. Activating a call point will result in a site wide alert.

CYG2PIR

Cygnus Fire Call Point Alarm c/w PIR Intruder Sensor

CYG2F

Cygnus Fire Call Point and First Aid Alarm

The impressive Cygnus fire call point and first aid alarm combination is IP65 rated and has all features of the CYG2 alarm but also boasts the first aid alert functionality for first aid emergencies. This operates differently to a fire alarm so as to distinguish the type of alarm being raised. When a first aid alert is raised, each first aid device will beep intermittently every 8 seconds.

CYG2FPIR

Cygnus Fire Call Point and First Aid Alert Alarm
c/w PIR Intruder Sensor

Cygnus Wireless Alarm System

CYG2/85DB

Cygnus Fire Call Point Alarm 85 Decibel

The Cygnus 85 decibel call point alarm operates using a single battery pack and is IP65 rated, thus suitable for external use. This device has been designed as a standalone alarm unit as well as a radio alarm. These devices are built with a less audible sounder for quieter areas such as operational facilities where a 110 decibel level is inappropriate. The call point is pushed to raise an alarm which will activate alarms around the entire site. This device does not include a flashing beacon.

CYG2/85DBPIR

Cygnus Fire Call Point Alarm 85dB (No Beacon)
c/w PIR Intruder Sensor

CYG5

Cygnus First Aid Alert Point

The Cygnus first aid alert point has been designed to operate differently from all other types of alerts and alarms. Once triggered, the first aid alert will beep intermittently every 8 seconds at 85 decibels. The control panel notifies the user the exact location within a zone where the alarm has been triggered. This helps to quickly identify and narrow down the search area. These devices are used where sites require designated first aid points and alarms. It also maintains an IP65 ingress rating.

CYG5PIR

Cygnus First Aid Call Point Alarm
c/w PIR Intruder Sensor

CYG3L

Cygnus Heat Detector

Cygnus heat detectors are an integral part of the system, providing essential detection in and out of working hours on all types of construction projects. These thoroughly tested and high quality detectors work in the radio mesh, like any other device, and will help transmit and receive all other radio messages from other alarms to help site wide radio performance. Using a matched pair of thermistors to sense heat, one thermistor is exposed to the ambient temperature, the other is sealed. In normal conditions, the two thermistors register similar temperatures but on the development of a fire the temperature recorded by the exposed thermistor will increase rapidly, resulting in an imbalance of the thermistors and causing the detector to activate the alarm. With the new GSM functionality from the GSM control panel, you can be assured your site is protected 24 hours a day, 7 days a week. Detectors come with an 85 decibel sounder. The CYG3L comes with a lithium battery pack.

CYG3LPIR

Cygnus Heat Detector c/w PIR Intruder Sensor

Cygnus Wireless Alarm System

CYG4L

Cygnus Smoke Detector

Cygnus smoke detectors have optical smoke sensors. The smoke detectors are an integral part of the system, providing essential detection in and out of working hours on all types of construction projects, in particular, site accommodation units. Optical smoke detectors work using the light scatter principle. The detector activates the alarm when a preset threshold of smoke penetrates into the sensing chamber. Detectors come with an 85 decibel sounder. The CYG4L comes with a lithium battery pack.

CYG4LPIR

Cygnus Smoke Detector c/w PIR Intruder Sensor

CYGIOU

Cygnus Input/Output Interface

The Cygnus input/output unit has been designed for interfacing with other fire systems, turnstile gate entry systems and door release systems. In the case of an alarm activation, the interface will trigger the door release and will deactivate the turnstile so a quick evacuation can be made to the assembly point. Where a site has a biometric security system the interface can provide the trigger to print out a fire register from the security log. For more information call our technical team.

SCAFF ALARM

ScaffAlarm is a unique intruder detection system designed to deter attempted break-ins or access to higher levels of scaffolding. The system connects up to 32 PIR detection devices which have a 110 decibel sounder, beacon alarm and are linked on a fully wireless mesh which communicates back to a control panel. The system can be fitted with an auto dialler for quick notification back to a site manager or security guard.

The system can also be connected into the Cygnus fire and first aid alarm system providing full site security in accordance with the latest CDM requirements.

SCAFFALARM BASE PANEL

(32 addresses)

The base panel is used to capture data from a maximum of 32 devices situated around a site. The base panel is mains powered but has its own internal rechargeable battery power source, which when fully charged, will last seven days. The panel has other features including an evacuate site function which can be used in case of emergency. The base panel is the perfect solution for construction sites wanting to keep safe and secure and free from intruders.

SCAFFALARM AUTO DIALLER GSM COMMUNICATOR

Auto diallers are normally used for out of hours protection. This auto dialler is connected to the panel and can be commissioned with up to 10 phone numbers of responsible persons. In an emergency the dialler will immediately contact the first responsible person on the list to notify of an activation on site.

SCAFFALARM PIR INTRUDER SENSOR

ScaffAlarm works with the Control Panel and sends users an SMS text alert should an intrusion occur. Alerts can also be sent to a third party monitoring station. The sensors are activated by using the menu settings on the control panel and if an intruder passes the sensor when in activate mode, it will cause the local alarm to sound.

ACCESSORIES

First Responder Stations

Cygnus alarms are often mounted on the First Responder Stations, allowing ease of use and mobility as a construction site develops.

TRLY05/012

Fire First Responder Station

The Fire First Responder Station is the first responder's central point for fire safety equipment and alarms. The fire alarm creates a site evacuation and can also be connected to the cabinet to alert responsible persons when the door has been opened. The cabinet prevents extinguishers and other equipment from misuse, damage and harsh weather elements.

- Fire alarm for complete site wide evacuation
- Extinguisher cabinet protects misuse, damage and weather elements
- Fire alarm can be connected to cabinet to alert if tampered with
- Minimises the risk of extinguishers being used without notifying the site
- Tamper pins, designed for cabinet latches, eliminates weekly inspection of extinguishers
- Fire plan displayed to aid escape and show routes to assembly area
- First aid alert beeps intermittently every 8 seconds, easily distinguished from the fire alarm
- Corporate branding available
- Fully customisable

TRLY05/02

First Aid First Responder Station

The range of First Aid Responder Stations are designed to suit all requirements. Bull Products designed this concept of the customisable first aid responder station to help overcome the challenges of maintaining adequate first aid equipment on-site. The ideal station will enable you to have all first aid equipment at your finger tips, providing secure storage of vital supplies and a first aider can be alerted at the touch of a button. Like the fire point station the alarm can be connected to the cabinet to alert a first aider when the cabinet door has been opened.

- Clearly defined first aid centre, for any accidents on site
- First aid alert alarm (nurse call) connects to the Cygnus Wireless Alarm System and notifies first aiders immediately of an accident
- Sealed cabinet can be wired to Cygnus alarm to notify site when accessed or tampered with
- Any activation of first aid alert will be logged on the Cygnus alarm panel
- Downloadable history log of first aid alerts on Cygnus alarm panel, useful for monitoring site accidents
- Easy accessible eye wash station, for fast response
- First aid signage, highlighting emergency procedures and names of the first aiders on site
- Standard or bespoke first aid kits to suit the needs of your site
- Space in cabinet for automated external defibrillator
- Corporate branding available

PAGE01

Connexions Pager System Panel

The paging system is designed for use on sites where mobiles are not recommended, and are used to quickly notify responsible persons of an incident. The pager panel is connected to the CYG1 control panel which has a designated output and transmits messages to hand held paging devices. Messages state the exact location within a zone of the incident and whether it be a fire emergency, first aid alert or intruder alert.

PAGE02

GEO Zoom Text Pager with Holster

The hand held pager device can only work in a system, not as a standalone device. It requires the PAGE01 pager panel to translate and receive messages from the rest of the Cygnus system. This handy device comes complete with a belt holster and battery.

CG01

Cygnus Protective Cages

Bull Products have designed and developed a cage system for CYG2 Cygnus alarm products. These cages help prevent vandalism, accidental damage, misuse and even theft. It is very important to protect these devices as fire safety is dependant on them. These alarm cages are designed for the harsh environments of construction sites and still provide full access for users to trigger the call point.

CYGFAS

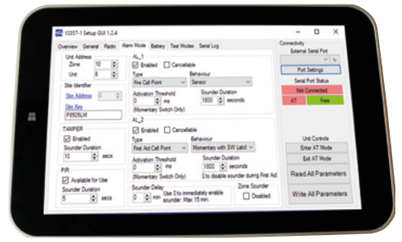
Cygnus Fire Action Notice

Cygnus fire action notice is predominately designed for CYG2F devices. Other types of fire action notices are also available upon request.

TAB02

8” Tablet Computer
c/w Windows, Cygnus Software and Lead

Cygnus software is suitable for Windows compatible computers only. The 8” tablet is a compact computer with Cygnus software preloaded, ready to use. The tablet computer comes with a USB to Mini USB adapter and Cygnus addressable connecting cable. This tablet computer makes reconfiguring, parameter changes and site zoning a smooth and simple process.



CYGSC1

Cygnus Addressable Connecting Cable

For use with TAB02 this cable is used to connect Cygnus units to the tablet to enable addressing of devices.

BATP01

Cygnus Alarm Alkaline Battery Pack

Suitable for all Cygnus units except CYG3L and CYG4L.

BATP03

Cygnus Alarm Lithium Battery Pack

Suitable for all Cygnus units.

CYGNUS TECHNICAL SPECIFICATIONS

PRODUCT	CYG1	CYG1-GSM/ GPRS	CYG6	CYG2	CYG2/85DB
DESCRIPTION	Control Panel	Control Panel with Remote Access	Base Panel / SCAFFALARM Base Panel	Fire Call Point	Fire Call Point 85db
SIZE H x W x D mm	320 x 285 x 135	320 x 285 x 135	320 x 285 x 110	265 x 170 x 90	265 x 170 x 90
AERIAL HEIGHT	230mm	230mm	230mm	230mm	230mm
WEIGHT KG LBS	4.68kgs 10.30lbs	5.1kgs 11.24lbs	2.95kg 6.50lbs	1.72kgs 3.80lbs	1.64kgs 3.60lbs
IP RATED	-	-	-	IP65	IP65
FREQUENCY	868MHz/434MHz	868MHz/434MHz	868MHz/434MHz	868MHz/434MHz	868MHz/434MHz
CATEGORY 1	YES	YES	YES	YES	YES
FLASHING BEACON	-	-	-	YES	-
NOISE LEVEL DB	65db	65db	65db	110db	85db
POWER	Mains with Battery Backup	Mains with Battery Backup	Mains With Battery Back Up	Battery Power Pack	Battery Power Pack
ALKALINE POWER PACK 0.84KGS	-	-	-	YES As Standard	YES As Standard
LITHIUM POWER PACK AVAILABLE UPON REQUEST	-	-	-	YES	YES
6V 12AH RECHARGEABLE BATTERY (LEAD ACID)	Yes	Yes	-	-	-
6V 2.8AH RECHARGEABLE BATTERY (LEAD ACID)	-	-	YES	-	-
AVAILABLE WITH PIR SENSOR	-	-	-	YES	YES
AERIAL TYPE	Exterior Mounted	Exterior Mounted	Exterior Mounted	Exterior Mounted	Exterior Mounted
WARRANTY	12 Months	12 Months	12 months	12 Months	12 Months

CYGNUS TECHNICAL SPECIFICATIONS

PRODUCT	CYG2F	CYG3L	CYG4L	CYG5	CYGIOU	CYGPIR	CYGPIR5 with sounder
DESCRIPTION	Fire & First Aid Call Point	Heat Detector	Smoke Detector	First Aid Call Point	Cygnus Input/ Output Unit	SCAFFALARM PIR Intruder Sensor Alarm	SCAFFALARM PIR Intruder Sensor Alarm
SIZE H x W x D mm	265 x 170 x 90	265 x 170 x 90	265 x 170 x 90	265 x 170 x 90	265 x 170 x 90	265 x 170 x 90	265 x 170 x 90
AERIAL HEIGHT	230mm	-	-	230mm	230mm	-	-
WEIGHT KG LBS	1.72kgs 3.80lbs	1.72kgs 3.80lbs	1.72kgs 3.80lbs	1.64kgs 3.60lbs	1.72kgs 3.80lbs	1.72kgs 3.8lbs	1.72kgs 3.8lbs
IP RATED	IP65	-	-	IP65	IP65	IP65	IP65
FREQUENCY	868MHz/434MHz	868MHz/434MHz	868MHz/434MHz	868MHz/434MHz	868MHz/434MHz	868MHz/434MHz	868MHz/434MHz
CATEGORY 1	YES	YES	YES	YES	YES	YES	YES
FLASHING BEACON	YES	-	-	-	-	-	YES
NOISE LEVEL DB	110db	85db	85db	85db	-	-	110db
POWER	Battery Power Pack	Battery Power Pack	Battery Power Pack	Battery Power Pack	Battery Power Pack	Battery Power Pack	Battery Power Pack
ALKALINE POWER PACK 0.84KGS	YES As Standard	-	-	YES As Standard	YES As Standard	YES As Standard	YES As Standard
LITHIUM POWER PACK AVAILABLE UPON REQUEST	YES	YES As Standard	YES As Standard	YES	YES	YES	YES
6V 12AH RECHARGEABLE BATTERY (LEAD ACID)	-	-	-	-	-	-	-
6V 2.8AH RECHARGEABLE BATTERY (LEAD ACID)	-	-	-	-	-	-	-
AVAILABLE WITH PIR SENSOR	YES	YES	YES	YES	-	YES As Standard	YES As Standard
AERIAL TYPE	Exterior Mounted	Internal Mounted	Internal Mounted	Exterior Mounted	Exterior Mounted	Internal Mounted	Internal Mounted
WARRANTY	12 Months	12 Months	12 Months	12 Months	12 Months	12 Months	12 Months

Customer Testimonials

"We were looking to adopt a wireless fire alarm system within the group and as Bull Products were very responsive to our needs and were happy to develop a system with us, we have been pleased to specify the new Cygnus system. We particularly like the system's addressability and Bull Products integrated a first aid alert into the call point which satisfied our needs."

Mike Whitfield
Contracts Manager at BAM Fire Protection Services

"If anything is not right, the system sets off the siren immediately. Whichever alarm has been triggered can be instantly seen on the control panel and a text alert is sent out at the same time. It's very versatile as we can move and re-use it as first aid call points or fire alarms during ground-up construction work. We would certainly recommend it for any development site."

Colin Jordan
Construction Manager at Canary Wharf Contractors

"We have had much experience of using the Cygnus system on multiple projects across London and would have no hesitation in recommending it. It is absolutely perfect, is very solid and robust and does the job extremely well."

Darren O'Brien
Security and Fire Systems Manager for Woodlands Site Services

Customer Testimonials

"We found Cygnus to be a very good system, providing not just alarms but first aid points as well. If an operator, say on level seven, hits the first aid button then we know exactly where to send help. Also, if for instance a crane driver is unwell, then that person too can hit an emergency button to raise the alarm. It is a very sound investment and financially much better than hiring."

Claire McCormack
Health and Safety Manager at Skanska

"We chose the Cygnus system as it has an excellent specification, is very competitive and we are very happy with the service provided by Bull Products. If any issues ever arise, somebody from the company comes straight to site. We would definitely recommend this system for any construction project."

Dan Hampson
Site Manager at Kier

"Good fire alarm system, very easy to install. The call point with first aid alarm feature and double knock system were good selling features. After sales service has been good, all additional items requested have been dealt with in an efficient manner."

Jason Clarke
Managing Director at Steve Halsall Electrical Ltd

WESTGATE SHOPPING CENTRE

Interfacing with multiple existing systems

The existing Westgate Shopping Centre in Greyfriars, Oxford, has been partly demolished and the remainder has been refurbished. During this phase the existing addressable fire alarm system has been removed and a Cygnus system has been configured and installed in its place. This consists of 2 control panels, CYG2 wireless alarm units and CYG3L heat detectors in the units being refurbished. The Cygnus alarm system is also monitoring the mall aspirating system, the shop fire alarm systems and all the building sprinklers.

An Ultima2 remote monitoring unit has been fitted in the control panel which is allowing the Bull Products technical support team to keep a regular check on the systems performance and provides text alert of activations to both centre security team and site staff.

The Cygnus software which allows for advanced cause and effect options means that it was the only temporary fire alarm system available on the market suitable for such a complex project.

ONE BLACKFRIARS

Mesh network effective in high rise buildings

The electrical contractors for this project selected the Cygnus wireless fire alarm system as a preferred option to provide fire and first aid protection throughout the site. Over 100 Cygnus modules are located around the site connected to a central control panel which is positioned in the site office. Many of the alarms are located at the emergency exits on each of the 52 floors and in the basement of the main tower block.

All told, there are some 66 Cygnus combined fire call points and first aid alarm units and 43 Cygnus heat detectors providing a wireless network to the Cygnus control panel. The control panel has additional functionality over standard as it uses a GSM / GPRS modem where activations can be sent directly reported to a third party monitoring station and/or site personnel by SMS text messaging. The panel can also be accessed from a PC so users can remotely view the system's status from any location. The user can also set parameters remotely, view event logs, activate the PIR sensors and name alarm devices.

CANARY WHARF PROJECT

Customised Cygnus alarm system

A new project underway in Canary Wharf, London, is benefiting from help from a new product specially developed by fire and safety specialists Bull Products.

At the Wood Wharf project, land is being reclaimed from West India Dock South as part of the redevelopment of a new 34 acre estate as an expansion of Canary Wharf.

Tubular piles inserted into the water of the docks allow a cofferdam to be built, and so form new land foundations for construction.

To protect workers from potential flooding during construction, an alarm system was essential. Working with Canary Wharf Contractors Ltd., Bull Products developed a special panic alarm system based on its proven Cygnus wireless alarm.

The Cygnus alarm system has been interfaced with inclinometers on the dam walls to sound an alarm if movement of the dam wall is detected and effect rapid evacuation of the site.

The customised Cygnus units include panics buttons, beacons, a traffic light system to ensure safe travel to certain areas on site, and a central Cygnus control panel with an auto dialler GSM Communicator installed which provides out-of-hours protection by auto-dialling up to ten phone numbers of responsible persons in an emergency. Additional call points and first aid alerts from the Cygnus range can link up to this bespoke system enabling an entire site-wide alarm and evacuation service.

CROSSRAIL PROJECT

Mesh network effective underground

Cygnus has proved to be the only wireless fire alarm to work reliably underground on the Crossrail project. To date, Cygnus is on 8 station projects, covering several miles of track.

Cygnus has been specifically designed for use in dense concrete and steel structured buildings, and areas where there are many other radio frequencies in use. Therefore, particular attention has been given to achieving an extremely long range connection and distances in excess of 1.5km have been recorded in an open air environment.

FIRE PROTECTION ASSOCIATION JOINT CODE OF PRACTICE

The Fire Protection Association/ Construction Confederation have produced, with the support of the Association of British Insurers, the Chief Fire Officers Association, and the London Fire Brigade, the Joint Code of Practice on the Protection from Fire of Construction Sites and Buildings Undergoing Renovation.

This lays out best practice fire safety recommendations with the specific challenges and demands of the construction industry in mind, and includes the following provisions:

4.5 Fire alarm system – any means utilised for giving warning of fire on a site. The most basic system may be no more than a hand-held siren or manually operated gong. Certain sites by their size and nature may require "break glass" call-points which, when broken, electronically operate bells, klaxons or sirens.

4.6 Fire detection system – a system comprising components for automatically detecting a fire, initiating an alarm and initiating other action as appropriate.

6.1.1 Responsible person – the responsible person must take such general fire precautions as will ensure, so far as is reasonably practicable, the safety of his employees and, in relation to persons who are not his employees, take such general fire precautions as may be reasonably required in the circumstances.

This will include that:

(c) weekly testing of the fire alarm (and any domestic style smoke detectors) is carried out and that other smoke and heat detectors on site are tested as determined by a risk assessment;

13.8 Temporary buildings or temporary accommodation located:

(a) inside the building under construction/refurbishment;

(b) inside another permanent building; or

(c) within 10m of such building(s)

must be fitted with fire detection systems complying with a recognised Category of installation as set out in **BS 5839-1:** ***Fire detection and alarm systems for buildings: Code of practice for system design, installation, commissioning and maintenance*** (ref 23). In the case of high fire risk sites, the fire detection system must be linked to the fire alarm system in the building on which work is being undertaken and to an alarm receiving centre, unless there is a 24-hour site security presence on site. Components of automatic fire detection and alarm systems should be marked as complying with EN 54 (ref 37).

CONSTRUCTION (DESIGN AND MANAGEMENT) REGULATIONS 2015

Regulation 32 Fire detection and fire-fighting.

(1) Where necessary in the interests of the health or safety of a person on a construction site, suitable and sufficient fire-fighting equipment and fire detection and alarm systems must be provided and located in suitable places.

(3) Fire-fighting equipment or fire detection and alarm systems must be examined and tested at suitable intervals and properly maintained.

EUROPEAN STANDARDS COVERING THE USE OF RADIO TECHNOLOGY IN EMERGENCY EQUIPMENT (ETSI 300-220-1)

European guidelines on the use of radio technology in emergency equipment specifies the use of life critical Class 1 receivers in 'human life inherent systems' – i.e. those in which any failure may result in physical risk to a person.

The Cygnus system uses Class 1 radios throughout, ensuring maximum signal reliability for your critical construction site evacuation system.

HSE FIRE SAFETY GUIDELINES FOR CONSTRUCTION SITES (HSG168; 223)

Health and Safety Executive guidelines for compliance with legislation on fire safety in construction sites1 state that:

"It is expected on the majority of sites that an inter-connecting (could be wired-in or wireless) system of call points and sounders will be required to provide an effective fire warning system."

Cygnus is a robust wireless fire warning system, integrating both call points and sounders, that ensures that when one call point – or heat/smoke detector – is triggered, a site-wide alert is initiated at a volume that's practical for alerting a busy construction site.

16 STEPS TO TIMBER FRAME CONSTRUCTION

The Structural Timber Association's 16 Steps to Timber Frame Construction document.

"An appropriately designed, installed and maintained automatic fire detection alarm system can reasonably ensure that site operatives will be aware of a fire before it can become large enough to compromise their escape route.

As a general rule, handbells, whistles and similar fire alarm devices are probably not going to be loud enough or heard easily by all site operatives on multi-storey construction projects. Electrically operated fire warning devices must always be used in timber frame projects unless it can be clearly demonstrated that other systems are effective.

These devices should be linked to detection devices strategically placed around the structure to provide the earliest possible detection of fire."

UNDERSTANDING CE MARKING AND THE CONSTRUCTION PRODUCTS REGULATION

By definition a construction product is any product or 'kit' which is produced and placed on the market for incorporation in a permanent manner in construction works.

The Cygnus system is a temporary fire alarm system and is not required to comply with the Construction Products Regulation 2011. However, due to the devastating nature of fire on construction sites, the system has been rigorously tested.

The product does not fall under the Construction Products Regulation 2011 when used as outlined below:

- The system's intended use is a fire and first aid alert system incorporating fire call points, first aid call points, smoke and heat detection and a control panel for temporary fire cover during construction works.
- The system is intended to be installed either in a building under construction, in site cabins or on mobile fire points and is taken out/deinstalled at the end of the construction project.

The radio modules are Class 1 with Category 1 receivers as required for human life inherent systems in accordance with the R&TTE directive (1999/5/EC) and the system has been tested to the following standards;

- EN 60950-1: 2006 + A2: 2013
  Electrical Safety
- EN 301 489-3 v1.6.1 (2013-08)
  Electromagnetic Compatibility
- EN 50130-4: 2011
  Electromagnetic Compatibility
- EN 300 220-2 v2.4.1 (2012-05)
  Radio Performance

RADIO PERFORMANCE

The Cygnus radio module has been designed for specific use on construction sites where changing site conditions and environments demand a far higher performance from the radio than that found in standard industry wireless linked fire systems. The radio operates on a mesh protocol which ensures signal integrity is maintained in a changing environment. The system has been successfully installed in conditions ranging from steel site cabin complexes to concrete basements up to 12m below ground and even rail projects 40m underground. The range of the radios on open ground has been measured at 1.5km and signals have been received at over 2.5km from units placed in high rise buildings.

FIRE INDUSTRY STANDARDS

The Cygnus system has been designed for use on construction sites and can be used as part of a fire alarm system installed to BS5839-1 2013 in Temporary Site Accommodation (Section 13.8) as required by JCOP (The Joint Code of Practice on the Protection from Fire of Construction Sites and Buildings Undergoing Renovation – 2012). The system is also intended to meet the JCOP requirement for High Rise Construction Sites (Section 22.8) and Large Timber Frame Structures (Section 23.15).

sales@cygnusalarms.com
www.cygnusalarms.com

Cygnus®