VIGILANT

Visual Alarm Devices (VADs) and Audible Alarm Devices (AADs)

The power behind **your mission**

Johnson Controls

Built on 100 years of product innovation

1914-1947	1952-1966	1971-1987	1989-1990	1990-1999	2000-2005	2006-2012	2013-2021

1914 Vigilant Automatic Fire Alarm Company Ltd registered in Christchurch, New Zealand by **Matthew Maloney**; patentee of the Vigilant Thermostat Fire Detector.

By **1946** there were 200 fire alarms installed and the company's fire detection systems had built an impressive reputation of saving lives.

1947 A disastrous fire at the Ballantyne's department store building in Christchurch on 18 November killed 41 people.

The resulting Royal Commission of Enquiry set the scene for enhanced fire codes and standards throughout New Zealand.

1952 Started manufacturing **fire brigade alarm receiving equipment** designed by Canterbury College engineer W.V Dromgoole.

Systems sold to all major fire brigades in New Zealand. Paved the way for later development of many successful generations of VIGILANT systems.

1961 Purchased by Wormald Brothers and integrated with Wormald Electric.

1963 Renamed Wormald Vigilant Ltd.

1966 First company owned R&D and manufacturing centre was built at Maces Road, Christchurch, New Zealand.

1971 Released our first electronic fire detection panel, the VIGILANT VIC1. Configured with up to 60 circuits, with timber construction finished in a stylish dark stain mahogany with an anodised aluminium surround.

1977 Maces Road premises extended with new second level head office building.

1987 Released our first microprocessor, based on a fire detection panel, the **VIGILANT FP4**.

1989 VIGILANT purchased by Tyco International Ltd and restructured into a design and manufacturing operation Vigilant Fire & Evacuation Systems.

1989 The first VIGILANT distributed fire detection system, the **FP4000** was released.

1989 Released our first personal computer-based Alarm Annunciator: the VIGILANT PC Display.

1990 First release of the VIGILANT QE90 Emergency Warning and Intercommunication System (EWIS).

1990 VIGILANT launched its first Australian fire detection panels - the VIGILANT F08 and VIGILANT F4000.

1992 The first VIGILANT analogue addressable fire detection capability was added to the VIGILANT F4000.

1993 The FP1600 (New Zealand) and F3200 (Australia) conventional fire detection panels were released.

1995 VIGILANT received ISO9001 Quality System accreditation.

1999 **VIGILANT CENTAUR** radio-based fire brigade signalling equipment was launched.

2000 The VIGILANT SIGMA 5 compact conventional panel was released in New Zealand.

2001 VIGILANT was incorporated into the worldwide Tyco Electronic Product Group, and introduced the revolutionary MX Technology with the MX4428 panel for both Australia and New Zealand.

2004 The VIGILANT MX1 Analogue Addressable Fire Detection and Alarm System was released in New Zealand.

2005 Modern purpose built Research & Development facility was established at Mary Muller Drive, **Research & Development facility**, New Zealand, where all the VIGILANT products are currently designed and supported.

2006 MX1 released 2 x 250 Device Gen5 MX Detector Loops.

2008 The AS Approved MX1 Analogue Addressable Fire Detection and Alarm System were released in Australia.

2011 Networking over IP (Internet Protocol) was added for both the Fire Detection and the Emergency Warning and Intercommunication System.

2012 The **7000th QE90*** was produced in December.
* Including all variations.

2013 **MX1** Networking was launched.

2014 VIGILANT celebrated 100 years of Quality and Innovation Leadership. The revolutionary "Generation 6" 850 Series MX Analogue, addressable detectors, were launched.

2016 MX1 was added to MX1 Networking IP and I-Hub.

2017 MX1 was added to MX4428 Networking IP and I-Hub.

2018 The TGEN-2 EWS Grade 3 was released.

2019 The MX1 Advanced Addressable Gas Control Panel was released.
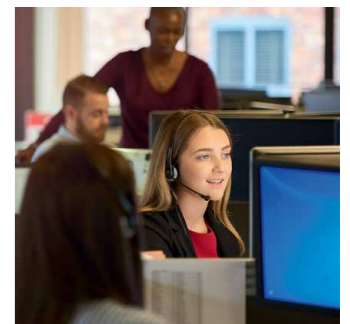
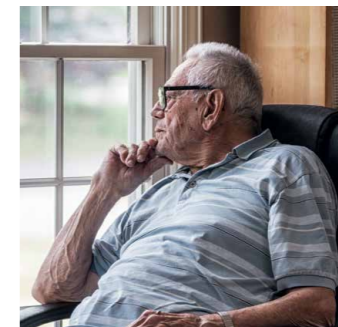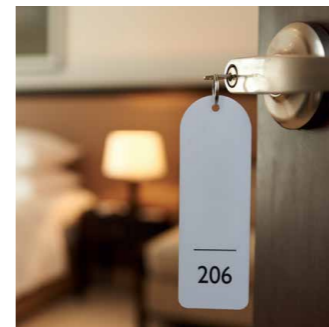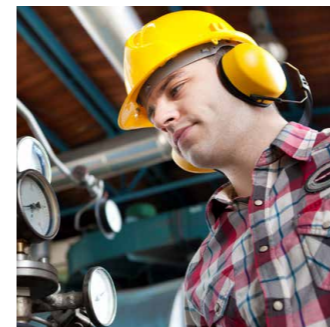**2019** The TGEN-2 EWS Grade 2 was released.

2021 QE20 Grade 1 Emergency Warning & Intercommunication System under development.

What to use where?

VADs are used to supplement sounders, providing an effective means of alerting and evacuating occupants of the building, as part of its fire safety strategy.

Typical examples of sites where VADs are needed:

What is AS 7240-23?

AS 7240-23 now provides clarity by standardizing requirements, test methods and performance criteria of Visual Alarm Devices (VADs) and ensures all device parameters are measured in a uniform manner throughout Australia & New Zealand. Prior to this release, misinterpretation and confusion over a particular product's performance was a common concern in the industry as there was no standard in existence for VADs.

Main Requirements from AS 7240-23 are:

- The coverage volume (i.e. volume within which required illumination is achieved) must be stated on the product or supporting documentation.
- The VAD should meet the requirement for coverage volume of at least one of the following categories: W (Wall), C (Ceiling), O (Open Class).
- Required illumination of 0.4 lux on a surface perpendicular to the direction of the light emitted from the VAD.
- The rate of flash should be stated between 0.5Hz and 2Hz.
- The devices must be classified as Type A, indoor and Type B, outdoor.
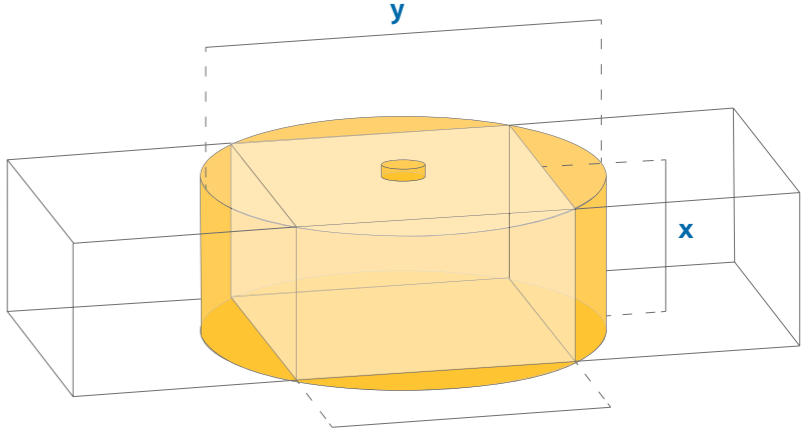
Wall Category
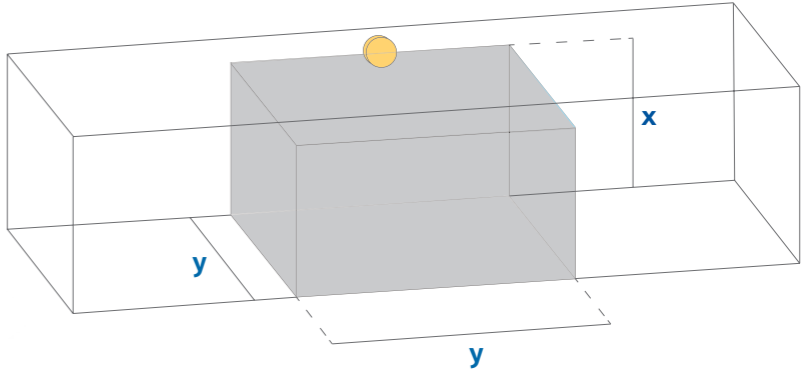
Coverage volume code:
W − (x) - (y) **W** = wall mounted **x** = maximum mounting height
y = length and width in metres of the cubic volume covered (to a minimum level of 0.4 lux) when the device is mounted to the wall at a height of x

Ceiling Category

Coverage volume code:
C − (x) - (y) **C =** ceiling mounted **x** = maximum mounting height
y = diameter in metres of the cylindrical volume covered (to a minimum level of 0.4 lux) when the device is mounted to the ceiling at a height of x

Open Class Category

The coverage volume and its shape are specified by the manufacturer and include mounting position and orientation alongside any restriction on the mounting height.
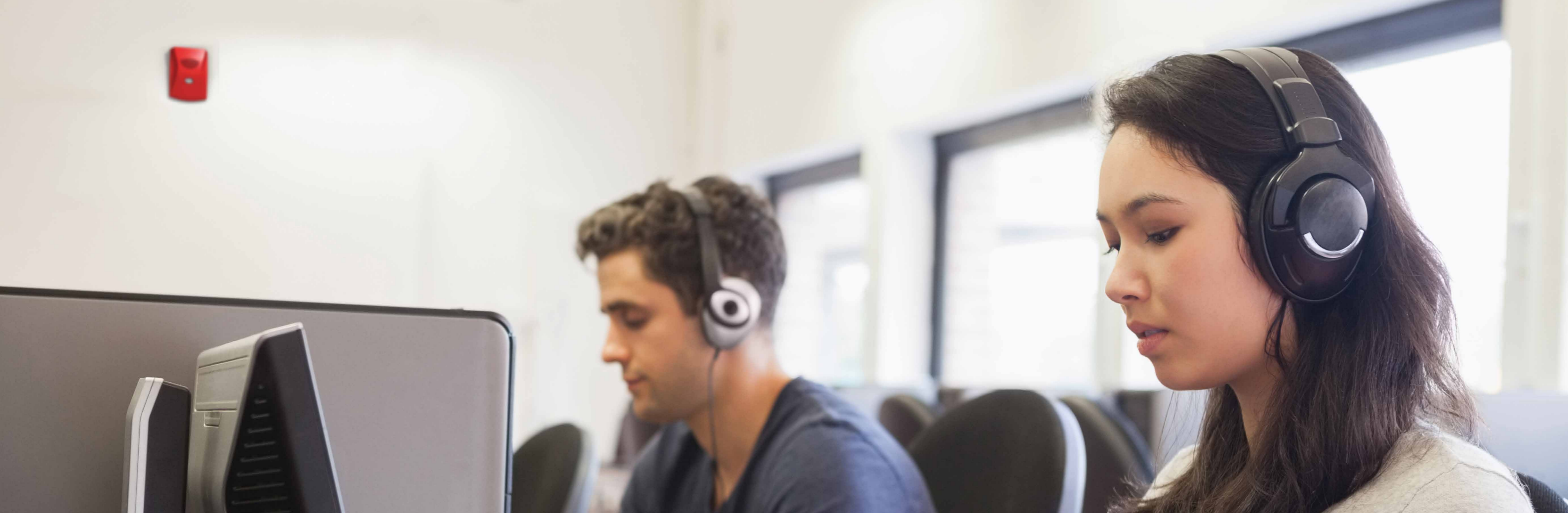
Faster Reaction to Alarm Activation 20ms Pulse Length

Xenon beacons are very effective visual alarm indicators, however, as they require high levels of power, it can be challenging when designing a fire detection system to accommodate their power requirements on a loop in the most effective way.

In the last decade, more power efficient LED technology had advanced significantly and become more prevalent as the majority of manufactures now utilize this light source in most of their visual indicating and alarm devices. Recent research has shown that

the effect of the LED light on the human eye is influenced by the light pulse length and this may not be the same as that emitted by a Xenon light.
Independent laboratory tests show that duration of the pulse within visual alarm devices influences the way people react to it. Interestingly, the shorter the pulse duration, the faster the reaction. Consequently shorter pulse durations of LED devices will result in improved reactions as attention to the light is drawn sooner.

The new range of devices from Vigilant capture these latest innovations and breakthroughs in light technology to operate LED devices with a pulse duration that does not exceed 20ms. This can have an effect on the human eye that is comparable to Xenon light.

Optimized Costs More Devices on a Loop

Power consumption is the biggest consideration when complying with AS 7240-23.

The new visual alarm and indication devices from Vigilant operate with low levels of current consumption, meaning more devices can be used on a loop with the same amount of energy, making systems design and installation easier. Now with our MX1 Fire Control Panels we have high power loops with up to 1 amp and 250 addresses, enabling the use of more sounders and VADs – meaning fewer loops to protect a site, reducing the installation cost while maintaining compliance.

The Solista, ROLP and addressable visual alarm devices (VAD) are either AS ISO 7240.23 approved or SAI Global listed. Each VAD has a unique lens design that distributes the red or white light to achieve the required illumination whilst using minimum current consumption. The VADs are ideal for a variety of applications, including bedrooms, bathrooms and toilets, and plantrooms. The addressable VADs can be used on MX1, Solista and ROLP VADs can be used on MX1, 4100ESi, QE20 or any panel that provides supervised 24V outputs.

P80AVB & P81AVB Addressable Sounder VAD Bases

Technical Specifications	P80AVB	P81AVB
Coverage Volume Code	C-3-8	C-3-15
Devices per loop	Up to 86 (*)	Up to 54 (*)
Flash rate	0.5 / 1Hz	0.5 / 1Hz
Dimensions (Diameter x H)	135 x 45 mm	135 x 45 mm
Sound output @ 1m	Up to 90dBA	Up to 90dBA
Body colour	Clear	Clear
Flash Colour	White	White
IP Code	IP21C	IP21C
Approvals	AS7240-3, 23, 17	AS7240-3, 23, 17

Part Numbers:

576.080.006	P80AVB, Addressable Base, Sounder VAD, Standard Intensity
576.080.014	P81AVB Addressable, Base Sounder VAD, High Intensity
557.080.001	B-CAP Blanking Cap, For Sounder/VAD Bases White
557.080.002	A-CON Conduit, Adaptor For Sounder / VID / VAD, Bases White

The P80AVB and P81AVB are indoor addressable sounder bases with a Visual Alarm Device (VAD) specifically for use with MX addressable detectors connected to the MX1 CIE. The P81AVB includes a higher intensity visual indication for more coverage compared to the P80AVB. Each has an address so they can be monitored and controlled from the fire alarm control panel, which is independent of the detector fitted to the base. The power and communications for the sounder, VAD and detector are provided by the two-wire MX digital loop.

Features:

- VAD approved to AS7240-23 two models P80AVB standard intensity and P81AVB high intensity flash
- One point of installation for detector, sounder and visual indicator with no additional wiring
- Independent addressable control of the sounder and beacon
- Built-in line isolator
- 2 selectable volumes
- 2 selectable flash rates
- Can be used on MX1

P80SB Addressable Sounder VAD Bases

Technical Specifications	P80SB
Devices per loop	Up to 231 (*)
Flash rate	N/A
Dimensions (Diameter x H)	114x45mm
Sound output @ 1m	Up to 90dBA
Body colour	White
Flash Colour	N/A
IP Code	IP21C
Approvals	AS7240-3, 17

The P80SB is an indoor addressable sounder base specifically for use with MX addressable detectors connected to the MX1 and 4100ESi CIE. The base incorporates a sounder that carries its own address so it can be monitored and controlled from the fire alarm control panel, which is independent of the detector fitted to the base. Both power and communications for the sounder and detector are provided by the two-wire digital loop.

Features:

- One point of installation for detector, sounder
- Independent addressable control of the sounder
- Built-in line isolator
- 2 selectable volumes
- Can be used on MX1 and 4100ESi

80DSB Detector Sounder Base / Detector Activated Sounder Base

Technical Specifications	P80DSB
Devices per loop	Up to 250 (*)
Dimensions (Diameter x H)	114x45mm
Sound output @ 1m	Up to 90dBA
Body colour	White
IP Code	IP21C
Approvals	AS7240-3

Part Numbers:

576.080.001	80DSB Detector, Base Sounder
557.080.001	B-CAP Blanking Cap for Sounder / VAD Bases White
557.080.002	A-CON Conduit, Adaptor for Sounder / VAD Bases White

The 80DSB is an indoor detector base specifically for use with MX addressable detectors connected to the MX1 and 4100ESi CIE. The base incorporates a sounder that is activated directly by the detector plugged into the base.

Features:

- One point of installation for detector and sounder with no additional wiring
- Low power with up to 175 sounders on a single loop
- Replaces legacy 802SB and it is compatible with 800 series detectors.
- Can be used on MX1, & 4100ESi

P80AVW, P80AVR Addressable Wall Sounder VADs

Technical Specifications	P80AVW	P80AVR
Coverage Volume Code	W-2.4-7.5	W-2.4-7.5
Devices per loop	Up to 73 (*)	Up to 73 (*)
Flash rate	0.5 / 1Hz	0.5 / 1Hz
Dimensions (WxHxD)	89x135x40mm (Without backbox)	89x135x40mm (Without backbox)
Sound output @ 1m	Up to 100dBA	Up to 100dBA
Body colour	White	Red
Flash colour	White	White
IP Code	IP21C	IP21C
Approvals	AS7240-3, 23, 17	AS7240-3, 23, 17

The P80AV range of compact addressable wall sounders with a Visual Alarm Device (VAD) can be connected to the MX1 CIE. Each VAD includes two models with the same low current and high output specification; red and white body indoor models.

Features:

- Can be semi-flush or surface mounted
- Power and data from MX loop. No additional wiring or power supplies required
- Built-in line isolator
- 2 selectable volumes
- 2 selectable flash rates
- Independent addressable control of sounder / beacon
- Can be used on MX1

All Addressable & Conventional VADs or AADs can connect to the MX1 Panel

VADs – Conventional Sounders / Beacons AS740.3 / 23 approved

The Solista and ROLP visual alarm devices (VAD) are AS ISO 7240.23 approved and SAI Global listed. Each VAD has a unique lens design that distributes the red or white light to achieve the required illumination whilst using minimum current consumption.

The VADs are ideal for a variety of applications, including bedrooms, bathrooms and toilets, and plantrooms. They can be used on MX1, 4100ESi, QE20 and QE90. A matching range of "Tag" plates is also available so the visual alarm devices can be installed to AS 1670.1:2018 and AS 1670.4:2018.

Features:

- Low current consumption of 10–25mA
- Wide operating voltage, with built-in diode
- Up to 7.5m x 7.5m coverage area
- 0.5Hz or 1Hz Flash rate, high & low intensity flash
- AS ISO 7240.23 approved
- SAI Global listed – Licence No: SMK40585
- Sound output 102dBA can be used on MX1, 4100ESi, QE20 and QE90.
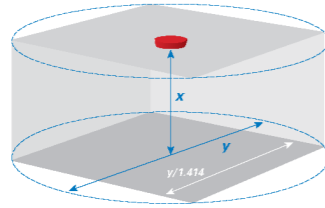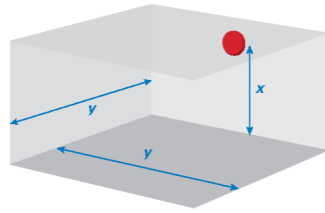
Solista LX Ceiling Beacon

Mounting Type	Ceiling
Voltage	9 - 60VDC
Current	10 - 25mA (dependent on setting)
Coverage (y)	7.5m (Switchable to 3m)*
Mounting Height (x)	3m (max)
Coverage Vol. Code	C-3-7.5
Coverage Vol.	132m3 (21m3)
Flash Rate	1Hz (Switchable to 0.5Hz)
Operating Temp.	–25ºC to +70ºC
Monitoring	Reverse Polarity
Protection	IP33C Shallow Base
Weight	100g
Body Colour	White
Flash Colour	White or Red
Sync	Automatic Synchronisation of flash rate

Solista LX Wall Beacon

Mounting Type	Wall
Voltage	9 - 60VDC
Current	10 - 25mA (dependent on setting)
Coverage (y)	7.5m (Switchable to 2.5m)*
Mounting Height (x)	2.4m (max)
Coverage Vol. Code	W-2.4-7.5
Coverage Vol.	135m3 (15m3)
Flash Rate	1Hz (Switchable to 0.5Hz)
Operating Temp.	–25ºC to +70ºC
Monitoring	Reverse Polarity
Protection	IP33C Shallow Base IP65 Deep and U Base
Weight	100g
Body Colour	White or Red
Flash Colour	White or Red
Sync	Automatic Synchronisation of flash rate

RoLP LX Wall Sounder Beacon

Mounting Type	Wall
Voltage	18 - 28VDC (Fire Use)
Current	22 - 37mA (dependent on setting) (Sounder and beacon; tone 3)
Coverage (y)	7.5m (Switchable to 2.5m)*
Mounting Height (x)	2.4m (max)
Coverage Vol. Code	W-2.4-7.5
Coverage Vol.	135m3 (15m3)
Flash Rate	1Hz (Switchable to 0.5Hz)
Operating Temp.	–25ºC to +70ºC
Monitoring	Reverse Polarity
Protection	IP65
Weight	200g
Body Colour	White or Red
Flash Colour	Red
Sound Output	102dB(A) (Typical tone 3 – RoLP)
Sync	Independent synchronisation of flash rate and tone

RoLP Sounder

Voltage	18–28Vdc
Current	12mA (Typical Tone 3)
Sound Output	102dB(A) (Typical Tone 3)
Tones	32
Volume Control	10dB
Monitoring	Reverse Polarity
Temperature	– 25ºC to + 70ºC
Protection	IP54 (s)* IP65 (d)*
Construction	ABS
Weight	0.25Kg
Colours	Red or white
Sync	Automatic Synchronisation

(s)* Shallow Base
(d)* Deep / U Base

VADs – Conventional Sounders / Beacons AS740.3 / 23 approved (continued)

VAD Tag Plates

The EA0345 – EA0350 VAD Tag Plates are a series of "FIRE" and "EVACUATE" lettered signs suitable for installing alongside a Visual Alarm Device (VAD) to comply with the VAD installation requirements in AS 1670.1 and AS 1670.4.Each tag plate is supplied with installation instructions, packaged in a plastic bag.

Photo	Tag plate description
	Round white tag plate with 15mm black FIRE and EVACUATE text. Application: use with indoor round wall / ceiling-mounting VADs and bases.
FIRE	Rectangular stick on (adhesive backed) white tag plate with 15mm black FIRE text. Application: use with indoor VADs.
EVACUATE	Rectangular stick on (adhesive backed) white tag plate with 15mm black EVACUATE text. Application: use with indoor VADs
FIRE	Rectangular stick on (adhesive backed) red tag plate with 15mm white FIRE text. Application: use with indoor VADs
EVACUATE	Rectangular stick on (adhesive backed) red tag plate with 15mm white EVACUATE text. Application: use with indoor VADs.
FIRE	Rectangle red tag plate (adhesive backed) with 50mm white FIRE text. UV stable material suitable for outside use. Application: Fire Brigade or external VAD.

Size (W x H)	170mm diameter	85mm x 30mm 150mm x 30mm	85mm x 30mm 150mm x 30mm	200mm x 75mm
Material	1.0mm PET	1.6mm Exterior Grade Acrylic	1.6mm Exterior Grade Acrylic	1.6mm Exterior Grade Acrylic
Colour	Black text White background	Black text White background	White text Red background	White text Red background
Text	2 x FIRE EVACUATE	FIRE/EVACUATE	FIRE/EVACUATE	FIRE
Font	15mm U65 Univers Bold TTF	15mm U65 Univers Bold TTF	15mm U65 Univers Bold TTF	50mm Sans Serif Bold TTF
Adhesive		3M 9086	3M 9086	1mm UHB Foam Tape

VIGILANT

For more information about Vigilant
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