

SS 2022

SS2022

Safety Systems

ionnic | 

Mission Statement

To become the preferred supplier of electrical, lighting and safety solutions for mobile plant and equipment in the mining and services industry.

We will continue to improve and expand our range of products that meet and exceed OEM standards, maintaining the latest technology and innovation available backed by technical support and supply.



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What's new in SS2022

NEW in CCTV Systems – AHD

- 8 Backeye 360 System – AHD
- 10 Backeye Select Monitors – AHD
- 12 Backeye Select Cameras – AHD



NEW in Obstacle Detection

- 40 Backsense Network Radar
- 44 Ultrasonic – On-Screen Display Module



What's new in SS2022

NEW

in Alarms, Horns & Buzzers

Speaking Turn Alarms

64



NEW

in Mining Safety Accessories

Wheel Chocks

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Reflective Warning Triangles

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Reflective Flags

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First Aid Kit

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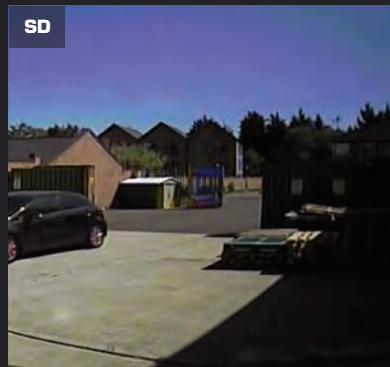




Analogue High Definition

Analogue High Definition (AHD) provides high definition images far superior to Standard Definition and without the image latency caused by digital systems.

AHD



Capacitive Touch Buttons

All AHD Backeye Select Monitors feature capacitive touch buttons. The advantage of capacitive touch buttons versus traditional physical buttons are:

- No moving parts or mechanical components – improved reliability, durability and better ingress protection.
- Thin footprint for sleek, elegant, flexible and compact design.
- Prevent false triggers – only detect conductive contact.
- LED backlight integration.
- Flat surface makes cleaning easier.





CCTV Systems – AHD

Backeye 360 System – AHD

8

Backeye Select Monitors – AHD

10

Backeye Select Cameras – AHD

12

CCTV Systems - AHD

Backeye 360 System - AHD

NEW

AHD



- 360° real-time video output.
- Analogue High Definition.
- Eliminates blind spots.
- Comprehensive view of the surrounding areas in a single image.
- 15 viewing modes including portrait, front/rear focus and lane changing.
- On-screen distance markers on rear view.
- Configurable viewing distance to suit different applications.
- Multi-voltage.
- Compatible with Brigade Mobile Digital Recorders* (Recording 360° image only).
- 5 year warranty.

Voltage :	12-24V
Current Draw :	1.22A
Video System :	AHD 1.0 & NTSC
Max. Camera Inputs :	4
Camera Field of View :	182° Hor. 118° Vert.
Frame Per Second :	30
Max. Combined Resolution :	1280 x 720
Video Outputs :	2
Trigger Inputs :	4
Vibration :	8.5G
EMC :	CE & 'e' marked
Operating Temperature :	-30°C to 75°C
Ingress Protection :	Camera IP69K

* When used with the MDR, output image is only available in SD.

Backeye 360 Systems are required to be installed & calibrated by an IONNIC trained technician.

Split Screen View

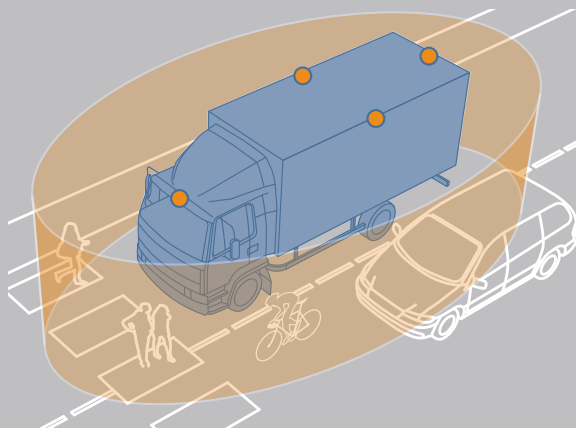
The Backeye 360 System can show 2 images on screen at the same time.

The first is the remarkable 360° view surrounding the vehicle while the second is a view from an individual camera.

This secondary view is controlled by trigger inputs and can be used to show a side camera when the vehicle turn signal is activated and also to the rear when reverse gear is engaged.

On screen icons show which camera is currently being displayed.

The operator also has the option to manually select which camera is being displayed via the dash mounted remote.



[Watch video](#)

CCTV Systems - AHD



Backeye 360 System – AHD – Kit NEW

Part No.	Description	Max. Combined Resolution
BN-770HD-300	4 camera kit with 7" Monitor	1280 x 720

When used with MDR, output image is only available in SD, and only 360° image is recorded.

Kit Contents:

- 1 x ECU Unit
- 4 x AHD Wide Angle Camera
- 1 x AHD 7" Monitor
- 1 x Cable – 20m ECU to Camera
- 2 x Cable – 15m ECU to Camera
- 1 x Cable – 10m ECU to Camera
- 1 x Cable – 5m ECU to Monitor
- 1 x View Select Controller



Backeye 360 System – AHD – Components & Accessories NEW

Part No.	Description
BN-360-300	Backeye 360 ECU & 4 x AHD wide angle camera
BN360-H305	Cable – 5m ECU to camera
BN360-H310	Cable – 10m ECU to camera
BN360-H315	Cable – 15m ECU to camera
BN360-H320	Cable – 20m ECU to camera
VBV-H405	Cable – 5m ECU to monitor
VBV-770HM	Monitor – Backeye Select AHD 7"
BN360-1000C	Backeye 360 AHD camera internal with 1m lead
BN360-1000C-H1	Backeye 360 AHD camera housing
BN360-CAL-MAT	Calibration mat, 4 required
BN360-CT-01	Calibration tool, SD card included



CCTV Systems – AHD

NEW

AHD

VBV-7104FM



VBV-770HM



- High-definition, high contrast and wide viewing angle.
- AHD and CVBS compatible.
- Colour LCD with anti-reflective coating.
- Auto-dimming backlight.
- Integrated speaker.
- Electronic distance markers.
- Mirror or normal views.
- Auto on when reverse gear selected.
- Capacitive touch buttons.
- Detachable sun visor.
- Multi-voltage.
- 3 year warranty.

Voltage :	12-24V
Current Draw :	VBV7104FM 2.6A
	VBV-770HM 0.8A
Video Signal :	NTSC, PAL, AHD 1.0 & AHD 2.0
Audio :	Integrated Speaker / Headphone Jack
Max Brightness :	500cd/m ²
Shock :	50G
Vibration :	4G
Operating Temperature :	-30°C to 70°C
Approvals :	CE, ECE R10, RoHS

High Definition

Analogue High Definition (AHD) provides high definition images far superior to Standard Definition and without the image latency caused by digital systems.



CCTV Systems - AHD



Backeye Select Monitors - AHD - 10.4" NEW

Part No.	Screen Size	Screen Resolution	Contrast Ratio	Camera Inputs	Triggered Activation	Split Screen
VBV-7104FM	10.4"	1024 x 768	900:1	4	5	2, 3 & 4

Supplied with detachable sun visor & adjustable mount.



Backeye Select Monitors - AHD - 7" NEW

Part No.	Screen Size	Screen Resolution	Contrast Ratio	Camera Inputs	Triggered Activation	Split Screen
VBV-770HM	7"	1024 x 600	700:1	3	3	—

Supplied with detachable sun visor & adjustable mount.



CCTV Systems - AHD

NEW

AHD
1080p



VBV-7101C

- AHD – 1080p.
- Available in PAL and NTSC models.
- Infrared LEDs for ultra-low light performance.
- Day/Night sensor.
- Mirror view.
- Wide angle view.
- Backlight compensation.
- Auto white balance.
- Integrated microphone on VBV-7100C & VBV-7101C.
- Vibration resistant rugged construction.
- Environmentally sealed.
- 3 year warranty.

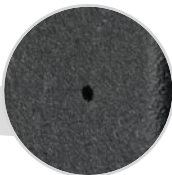


Voltage : 12V (supplied via monitor)
Image Sensor : 1/3" Sony® CMOS & Nextchip ISP
Minimum Illumination : 0lx
Body : Aluminium
Vibration : 8.5G
Approvals : CE, ECE R10, RoHS
Operating Temperature : -30°C to 80°C

IP67



VBV-7100C, VBV-7101C

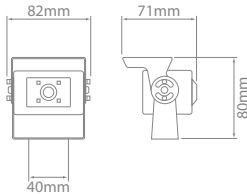


Integrated microphone

IP69K



VBV-7190C, VBV-7191C



Backeye Select Cameras – AHD 1080p NEW

Part No.	Format	Field of View	TV Lines	Frames per Sec.	Microphone	IP Rating	Illumination Distance (m)
VBV-7100C	PAL	110° Hor. 60° Vert.	800	25	Yes	IP67	10
VBV-7190C					—	IP69K	
VBV-7101C	NTSC	110° Hor. 60° Vert.	800	30	Yes	IP67	10
VBV-7191C					—	IP69K	

CCTV Systems - AHD



Backeye Select Cameras – AHD – Cables NEW

Description	2.5m	5m	10m	20m
AHD cable	VBV-H4025	VBV-H405	VBV-H410	VBV-H420





Which Range?

5Yrs

Elite – 5 Year Warranty

Top of the range systems for comprehensive blind spot coverage on large road going, off road vehicles or specialist applications.

3Yrs

Select – 3 Year Warranty

Mid range systems suitable for medium to large road going vehicles.

1Yr

Essential – 1 Year Warranty

Entry level reversing solution ideally suited to light commercial vehicles and vans.

Digital Wireless System

Connecting a rear view camera system to a large vehicle or machine can be time consuming and awkward due to the amount of cable to install. Brigade's new wireless system eliminates excess cabling, saving up to two hours fitment time and removes the need for an additional suzi cable.

New digital wireless technology gives almost instantaneous pictures (camera to monitor in less then

200 milliseconds) and is not affected by electrical interference from other vehicles or machine equipment.

The camera image is sent to the monitor via a transmitter and receiver, and once paired, the wireless link is secure.

The system also features an easy re-pairing function, allowing the receiver to be linked to a different transmitter making interchanging trailers possible.





CCTV Systems

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CCTV Systems



- Eliminates blind spots.
- Comprehensive view of the surrounding areas in a single image.
- 360° real-time video output.
- Triggered views (rear, left and right).
- Multiple viewing modes including portrait, front/rear focus and lane changing.
- On-screen distance markers on rear view.
- Configurable viewing distance to suit different applications.
- Multi-voltage.
- Compatible with Brigade monitors & Mobile Digital Recorders.
- 5 year warranty.

Voltage :	12-24V
Current Draw :	1.23A
Video System :	NTSC
Max. Camera Inputs :	4
Camera Field of View :	185° Hor. 142° Vert.
Frame Per Second :	30
Video Outputs :	2
Trigger Inputs :	3
Vibration :	8.5G
Operating Temperature :	CE & 'e' marked -30°C to 75°C
Ingress Protection :	Camera IP69K

Split Screen View

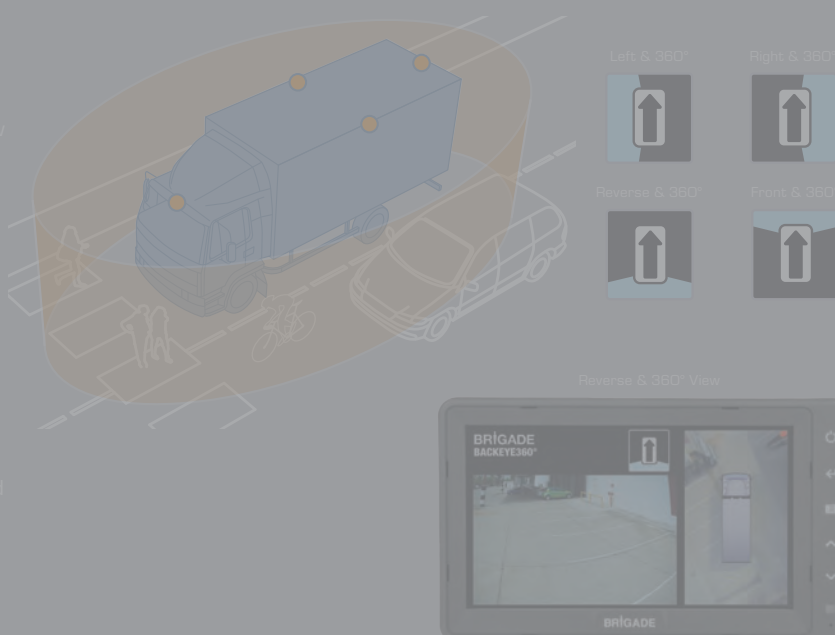
The Backeye 360 Systems show 2 images on screen at all times.

The first is the remarkable 360° view surrounding the vehicle while the second is a view from an individual camera.

This secondary view is controlled by trigger inputs and can be used to show a side camera when the vehicle turn signal is activated and also to the rear when reverse gear is engaged.

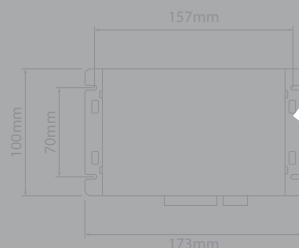
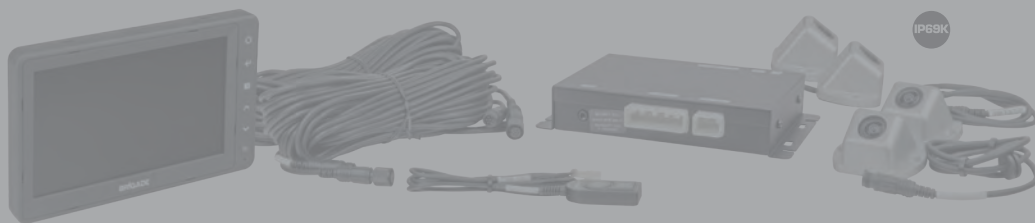
On screen icons show which camera is currently being displayed.

The operator also has the option to manually select which camera is being displayed via the dash mounted remote, the 360° view remains on screen all time.





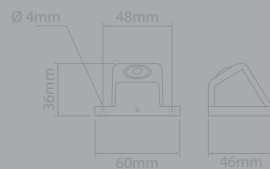
Watch video



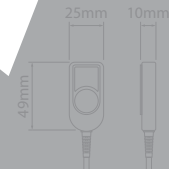
ECU



7" Monitor



Camera



Remote

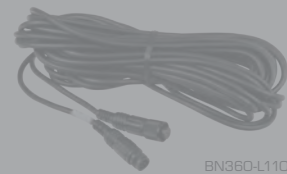
Backeye 360 System – Digital

Part No.	Description	Max. Combined Resolution	Kit Contents:
BN-770D-200	4 camera kit with 7" monitor	640 x 480	1 x ECU Unit 4 x Wide Angle Camera 1 x Monitor 1 x Cable – 20m ECU to Camera 2 x Cable – 15m ECU to Camera 1 x Cable – 10m ECU to Camera 1 x Adaptor – Monitor to RCA Connector 1 x Adaptor – RCA Female to Female 1 x IR Remote Controller 1 x View Select Controller
BN-1001-200	4 camera kit with 10" monitor	640 x 480	
BN-1001-250	4 camera kit with HD 10" monitor	1024 x 600	

Backeye 360 Systems are required to be installed & calibrated by an IONNIC trained technician.

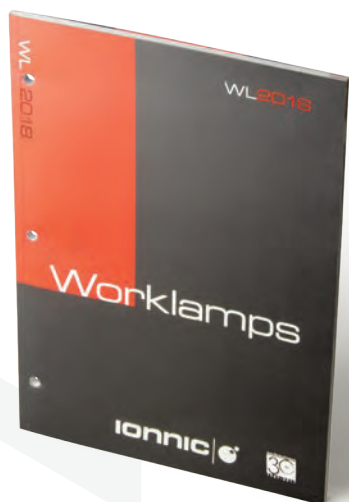
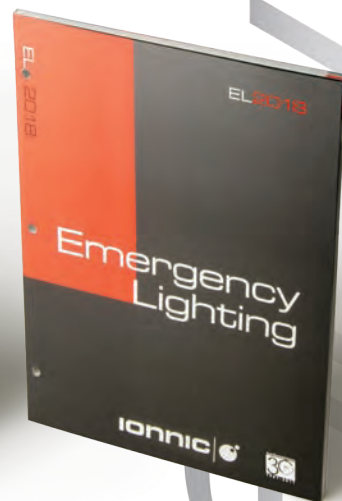


CCTV Systems



Backeye 360 System – Digital – Components & Accessories

Part No.	Description
BN360-200	Backeye 360 ECU & 4 x wide angle cameras
BN360-100C	Backeye 360 camera internal with 1m lead
BN360-100C-H1	Backeye 360 camera housing
BN360-100C-MK	Backeye 360 camera gasket kit Kit Contents: 4 x Sasket, 8 x Bolt, 8 x Wall Plug
BN360-L120	Cable – 20m ECU to camera
BN360-L115	Cable – 15m ECU to camera
BN360-L110	Cable – 10m ECU to camera
BN360-L105	Cable – 5m ECU to camera
BN360-200-RC	IR remote control
VBV-770DM	Monitor – Backeye Select 7"
AC-024	Adaptor – Connects Backeye Select monitor to RCA camera
AC-054	Adaptor – Connects RCA female to male
AC-059	Adaptor – Connects RCA female to female
BN360-CAL-MAT	Calibration mat, 4 required
BN360-CT-01	Calibration tool, SD card included



CCTV Systems



BE-870-000

12V
24V

- Systems include:
 - Colour LCD Monitor
 - Camera
 - Cable
- Elite & Select Systems can be expanded to multiple cameras.
- Elite & Select Systems include audio.
- BE-970W-000 features waterproof monitor & camera.
- Multi-voltage.

Voltage : 12-24V
Cable Length : 20m

See individual products for detailed specifications

IP69K



BE-970W-000

Capacitive touch buttons



BE-870-000

Backeye Complete Kits – Elite – Digital

Part No.	Screen Size	Monitor	Camera	Cable	Waterproof	
					Monitor	Camera
BE-970W-000	7"	BE-970WM	BE-800C	BE-L120	IP69K	IP68
BE-870-000	7"	BE-870LM	BE-800C	BE-L120	—	IP68

Each kit can be expanded to 2 cameras.
Supplied with detachable sun visor & adjustable mount.



▶ Watch video

Capacitive touch buttons



VB770D-000

Capacitive touch buttons



VB750D-000

Backeye Complete Kits – Select – Digital

Part No.	Screen Size	Monitor	Camera	Cable
VBV770D-000	7"	VBV-770DM	VBV-700C	VBV-H420
VBV750D-000	5"	VBV-750DM	VBV-700C	VBV-H420

Each kit can be expanded to 3 cameras.

Supplied with detachable sun visor & adjustable mount.



Backeye Complete Kits – Essential – Analogue

Part No.	Screen Size	Monitor	Camera	Cable
VBV-650-000	5"	—	—	—

Components not available separately.

Supplied with adjustable monitor mount.



CCTV Systems



BE-970WM



BE-870LM



- Colour LCD with anti-reflective coating.
- LED backlight with auto dimming.
- Integrated speaker.
- Up to 4 camera inputs.
- Up to 4 way split screen.
- Electronic distance markers.
- Mirror or normal views.
- Auto on when reverse gear selected.
- Adjustable mount.
- Capacitive touch buttons on waterproof models.
- Multi-voltage.
- 5 Year warranty.

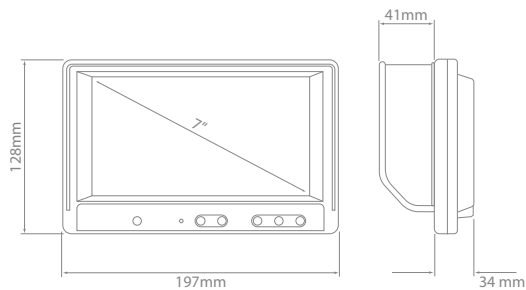
Voltage :	12-24V
Current Draw :	0.9A
	1.0A
Video Signal :	NTSC & PAL
Vibration :	10G
	20G
Approvals :	CE Marked
EMC :	C-Tick
Operating Temperature :	-40°C to 70°C



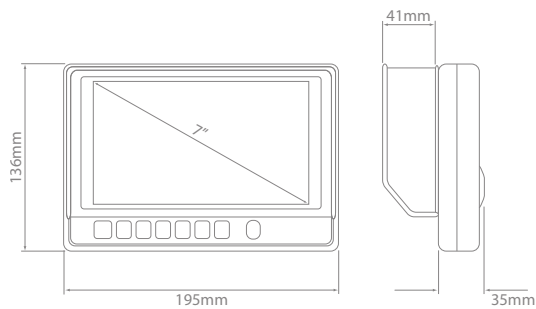
Backeye Elite Monitors – Digital – 7" – Waterproof IP69K

Part No.	Screen Size	Screen Resolution	Camera Inputs	Split Screen	Picture in Picture	AV Inputs	Video Outputs
BE-970WM	7"	800 x 480	2	—	—	—	—
BE-970WFM	7"	800 x 480	4	2, 3 & 4	Yes	1	1

Supplied with detachable sun visor & adjustable mount.



BE-870LM



BE-870FM



Backeye Elite Monitors – Digital – 7"

Part No.	Screen Size	Screen Resolution	Camera Inputs	Split Screen	Picture in Picture	AV Inputs	Video Outputs
BE-870LM	7"	800 x 480	2	—	—	—	—
BE-870FM	7"	800 x 480	4	2, 3 & 4	Yes	1	1

Supplied with detachable sun visor & adjustable mount.

Picture in Picture & Split Screen

2, 3 & 4 way split screen and picture in picture capability with certain models.



Picture in Picture

Single



Split



Triple



Quad



Split Screen

CCTV Systems



AC-016



AC-020



AC-302



BMM-011



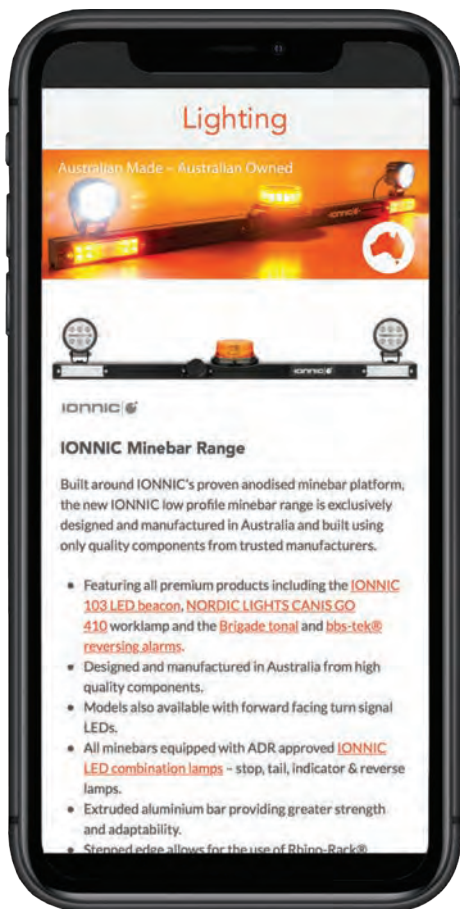
BMM-013

Backeye Elite Monitors – Digital – Accessories

Part No.	Description
AC-016	Adaptor – Allows AV equipment to connect to Backeye Elite monitor
AC-020	Adaptor – Allows Backeye Elite monitor to connect to VBV cable
AC-302	Adaptor – Allows 2 x Backeye Elite monitors to connect to a single Backeye camera
BMM-011	Mount – Heavy duty. Suits BE-970XX & BE-87OLM
BMM-013	Mount – Standard duty. Suits BE-970XX & BE-870XX

Newsletter

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Lighting | Safety | Electrical

Product Update Newsletter
March 2021

Electrical

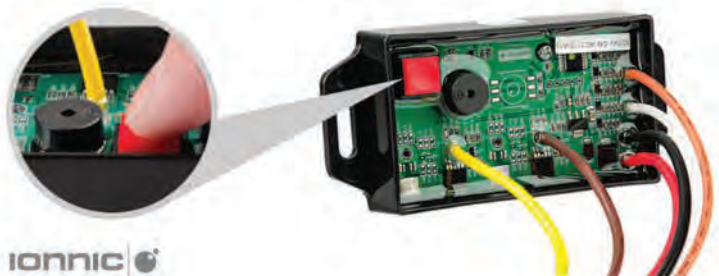


IONNIC Recessed E-Stop Kits

All new kits featuring Pressed Coated Steel or Nylon PA66 recessed housings.

- Protects and helps prevent accidental switch activation.
- Supplied with latching Telemecanique emergency stop switch.
- N/O or N/O & N/C contact block options.
- Round 'Emergency Stop' legend included.
- Available in kit and component form.
- Coated carbon steel or Nylon PA66.
- Multi-voltage.

[Learn More](#)



IONNIC Hand Brake Alarm Module – Now with Self-Learning Function

Designed to signal when hand brake is not engaged and vehicle door opens, this universal 2 stage alarm module can be adapted to suit any vehicle.

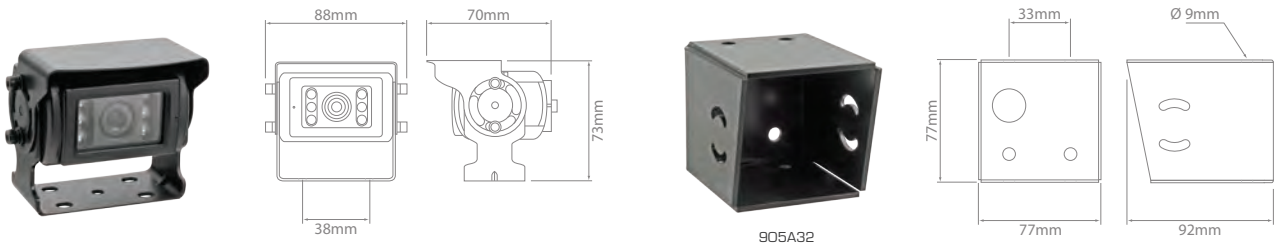
- Self learning function automatically detects vehicle triggers for quick and easy installation.
- Satisfies mine site requirements.
- 2 stage outputs.
- Compact easy installation.
- Suitable for positive and negatively switched vehicles/applications.
- Epoxy filled for enhanced moisture and vibration protection.
- 2 year warranty.

CCTV Systems



- Infrared LEDs for ultra-low light performance.
- Day/Night sensor – 800 Series.
- Built-in heater.
- Mirror view (excluding BE-890C).
- Wide angle view.
- Vibration resistant rugged construction.
- 800 Series includes audio.
- Environmentally sealed.
- 5 year warranty.

Voltage : 12V (supplied via monitor)
Video Signal : PAL
Image Sensor : 1/3" Sony® CMOS
Minimum Illumination : 0.1lx
Body : Aluminium
Vibration : 20G
Approvals : CE Marked
EMC : C-Tick
Operating Temperature : -30°C to 70°C



Backeye Elite Cameras – Digital – Pedestal Mount

Part No.	Field of View	TV Lines	Microphone	Heater	IP Rating	Illumination Distance (m)
BE-800C	109° Hor. 85° Vert.	425	Yes	Yes	IP68	5
BE-800C-40	32° Hor. 24° Vert.	425	Yes	Yes	IP68	5
BE-800C-78	69° Hor. 51° Vert.	425	Yes	Yes	IP68	5
BE-890C	109° Hor. 85° Vert.	425	No	Yes	IP69K	5
905A32	Protective enclosure					

“Eyeball” Surface Mount Cameras



The Backeye Select “Eyeball” cameras are compatible with the Backeye Elite monitors using an adaptor (AC-006) which can be found on page 32.

Backeye Select “Eyeball” cameras can be found on page 31.



Backeye Elite – Digital – Cables

Description	3m	5m	10m	15m	20m	25m	30m
Standard cable	—	BE-L105	BE-L110	BE-L115	BE-L120	—	BE-L130
Extension cable	BE-X003	BE-X005	BE-X010	BE-X015	BE-X020	BE-X025	—

Standard cable used to connect camera to monitor.
Extension cables connect standard cables to monitor.



Backeye Elite – Digital – Adaptors & Connectors

Part No.	Description
AC-014	Adaptor – Connect Backeye Elite camera to VBV cable
AC-019	Adaptor – Connect Backeye Elite cable to RCA connector (video input)
AC-302	Adaptor – Allows 2 x Backeye Elite monitors to connect to a single Backeye Elite camera Adaptors for use at monitor (in-cabin) end only.
SC-7	Suzi coil for use with SP-7A, SP-7B
SP-7A	Connector – Cab side
SP-7B	Connector – Trailer side

CCTV Systems

VBV-750FM



VBV-750DM

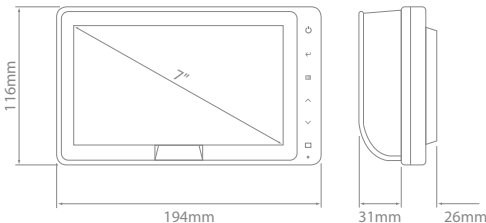


- Colour LCD with anti-reflective coating.
- Auto-dimming backlight.
- Integrated speaker.
- Electronic distance markers.
- Mirror or normal views.
- Auto on when reverse gear selected.
- Adjustable mount.
- VBV-77ODM supplied with additional mount.
- Capacitive touch buttons on all models.
- Detachable sun visor.
- Multi-voltage.
- 3 Year warranty.

Voltage : 12-24V
Current Draw : 0.18A @ 28V
Video Signal : NTSC & PAL
Audio : Integrated Speaker / Headphone Jack
Shock : 50G
Vibration : 4G
Operating Temperature : -30°C to 70°C
Approvals : RoHS, CE, HALT, WEEE



Capacitive touch buttons



Backeye Select Monitors – Digital – 7"

Part No.	Screen Size	Screen Resolution	Camera Inputs	Split Screen	Picture in Picture	AV Input	AV Output
VBV-77ODM	7"	800 x 480	3	—	—	1	—

Supplied with detachable sun visor & adjustable mount.



Backeye Select Monitors – Digital – 5"

Part No.	Screen Size	Screen Resolution	Camera Inputs	Split Screen	Picture in Picture	AV Input	AV Output
VBV-750DM	5"	800 x 480	3	—	—	—	—

Supplied with detachable sun visor & adjustable mount.



Backeye Select Monitor – Digital – Accessory

Part No.	Description
BMM-015	Mount – Standard duty. Suits Backeye Select Monitors



CCTV Systems

VBV-485C



VBV-700C



VBV-300C

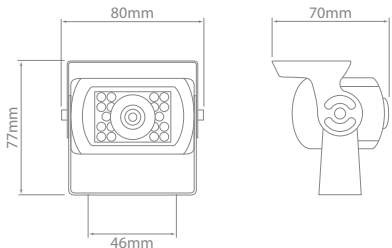


- Infrared LEDs for ultra-low light performance.
- Day/Night sensor.
- Mirror view.
- Wide angle view.
- Vibration resistant rugged construction.
- "Eyeball" surface mount features a multi-adjustable lens.
- VBV-485C supplied with angled spacers for mounting on sloping surfaces.
- Environmentally sealed.
- 3 year warranty.



Voltage :	12V (supplied via monitor)
Video Signal :	PAL
Image Sensor :	1/3" Sharp® CCD
Minimum Illumination :	0.1lx
Body :	Aluminium
Vibration :	10G
	Surface Mount 8.5G
Approvals :	CE Marked
EMC :	C-Tick
Operating Temperature :	-30°C to 70°C

IP67



Backeye Select Cameras – Digital – Pedestal Mount

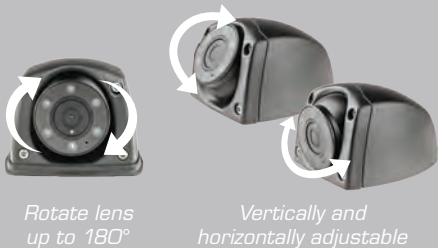
Part No.	Field of View	TV Lines	Microphone	Heater	IP Rating
VBV-700C	88° Hor. 68° Vert.	620	Yes	—	IP67

Surface Mount “Eyeball”

The Backeye Select VBV-300 series surface mount cameras give a clear view of blind spots that normally exist when using conventional mirrors.

Compact and robust with an all aluminium body the VBV-300 series are designed to be mounted where conventional pedestal cameras would be too large.

The adjustable, ball-and-socket lens enables installation in virtually any position on a vehicle or mobile plant and the camera is available in both mirror and normal view to allow the driver or operator to have the most appropriate view for a given manoeuvre.

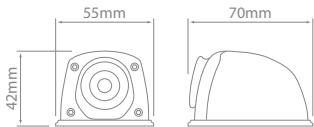


Rotate lens up to 180°

Vertically and horizontally adjustable

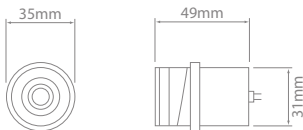
- Swivel lens adjustment to fine tune the field of view.
- Lens rotation adjustment $\pm 180^\circ$ enables installation regardless of surface orientation.

Compatible with Select and Elite* range monitors.
*Requires AC-006 adaptor found on page 32.



Backeye Select Cameras – Digital – Surface Mount “Eyeball”

Part No.	Description	Field of View	TV Lines	Microphone	Heater	IP Rating
VBV-300C	Mirror View	110° Hor. 82° Vert.	780	Yes	—	IP69K
VBV-320C	Normal View	110° Hor. 82° Vert.	780	Yes	—	IP69K



Backeye Select Cameras – Digital – Flush Mount

Part No.	Field of View	TV Lines	Microphone	Heater	IP Rating
VBV-485C	90° Hor. 69° Vert.	680	—	—	IP68, IP69K



CCTV Systems



VBV-H420

Backeye Select – Digital – Cables

Description	2.5m	5m	10m	20m
Standard cable	VBV-L4025	VBV-L405	VBV-L410	VBV-H420



Backeye Select – Digital – Adaptors & Connections

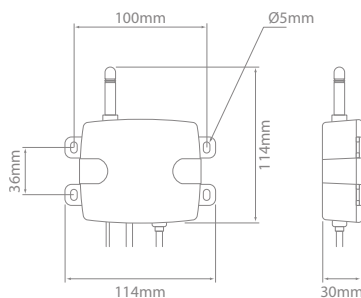
Part No.	Description
AC-006	Adaptor – Connect Backeye Select cables to BE monitors
AC-007	Adaptor – Connect Backeye Elite cables to VBV monitors
AC-024	Adaptor – Connect Backeye Select monitors to RCA cameras
	Adaptors for use at monitor (in-cabin) end only.
AC-24-12-001	Adaptor – Connect Backeye Select cameras to BE monitors, built-in 24–12V reducer
AC-24-12-007	Adaptor – Connect Backeye Select cameras to IVECONNECT, built-in 24–12V reducer
SC-07-24S	Suzi coil for use with VSP-47A, VSP-47B
VSP-47A	Connector – Cab side
VSP-47B	Connector – Trailer side
VCS-020	Camera Diverter – Automatically selects rearmost camera when a trailer is connected
VSK-30E	Complete Kit for Articulated Truck
	Kit contents: 1 x VBV-L410, 1 x VBV-H420, 1 x VSP-47A, 1 x VSP-47B & 1 x SC-07-24S.

- Wireless connectivity for digital CCTV systems.
- Reduces installation time.
- Eliminates the need for additional suzi coils on articulated vehicles.
- 'Re-pair' facility allows for interchangeable trailers.
- Supplied with adaptors to suit the Elite range of cameras & monitors.
- Transmitter environmentally sealed – IP69K.
- Digital technology.
- 3 year warranty.

Voltage :	12-24V
Current Draw :	0.22A
Latency :	200ms
Body :	ABS & Polycarbonate
Vibration :	6G
Approvals :	CE Marked
EMC :	C-Tick
Operating Temperature :	-40°C to 70°C
Ingress Protection :	Transmitter IP69K



DW-1000RX

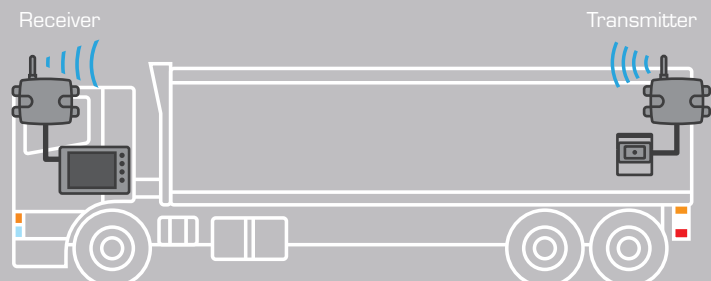


Cable Free Connection

Connecting a rear view camera system to a large vehicle or machine can be time consuming and awkward due to the amount of cable to install. Brigade's new wireless system eliminates excess cabling, saving up to two hours fitment time and removes the need for an additional suzi coil.

New digital wireless technology gives almost instantaneous pictures (camera to monitor in less then 200 milliseconds) and is not affected by electrical interference from other vehicles or machine equipment.

The camera image is sent to the monitor via a transmitter and receiver, and once paired, the wireless link is secure. The system also features an easy re-pairing function, allowing the receiver to be linked to a different transmitter making interchanging trailers possible.



Digital Wireless System

Part No.	Description
DW-1000TX	Transmitter – camera side
DW-1000RX	Receiver – monitor side

Not compatible with AHD systems.



CCTV Systems

Mobile Digital Recorder



NEW

- Full HD video capability.
- 4 camera inputs & up to 4 way split screen.
- Up to 1862 hours recording time.
- Mirror recording onto hard disk and SD card.
- 8 configurable trigger inputs. eg G-Force, motion detection, voltage and video signal loss.
- GPS location tracking, speed detection with time sync.
- Multiple recording quality settings.
- MDR Dashboard software allows full control over recorded information allowing clips and footage to be saved individually.
- Durable metal construction suitable for physically demanding applications.
- Lockable and removable hard disk.
- Save & load all settings onto supplied SD card for easy configuration of multiple units.
- Fast on-site, PC or TV playback capabilities.
- 3 year warranty.

Voltage :	12-24V
Current Draw :	5A @ 12V
Video System :	NTSC/PAL/AHD
Compression :	H.264/ADPCM
Frames Per Second :	NTSC 1-30 PAL 1-25
Max. Resolution :	1920 x 1080 FHD
Audio/Video Inputs :	4
Mirror Recording :	Yes
Connection :	Ethernet
Certifications :	CE, 'e' mark, RoHS2, FCC, WEEE
Hard Disk Capacity :	2.5" 1TB SATA HDD
Interface :	USB 3.0, RS485
Alarm Inputs/Outputs :	8 Inputs, 2 Outputs
Operating Temperature :	-40°C to 70°C



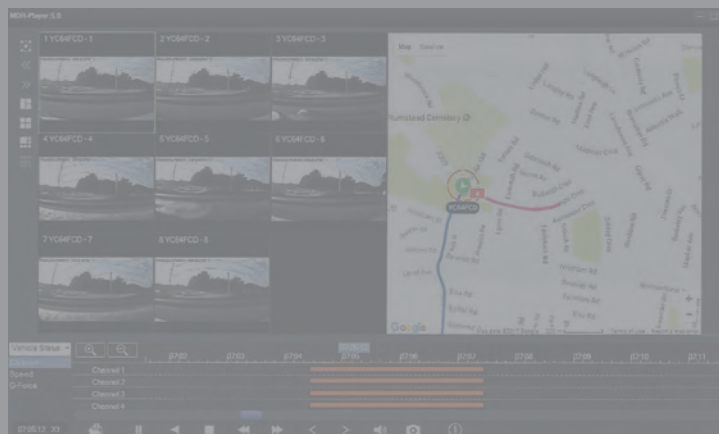
Why Install a Mobile Digital Recorder?

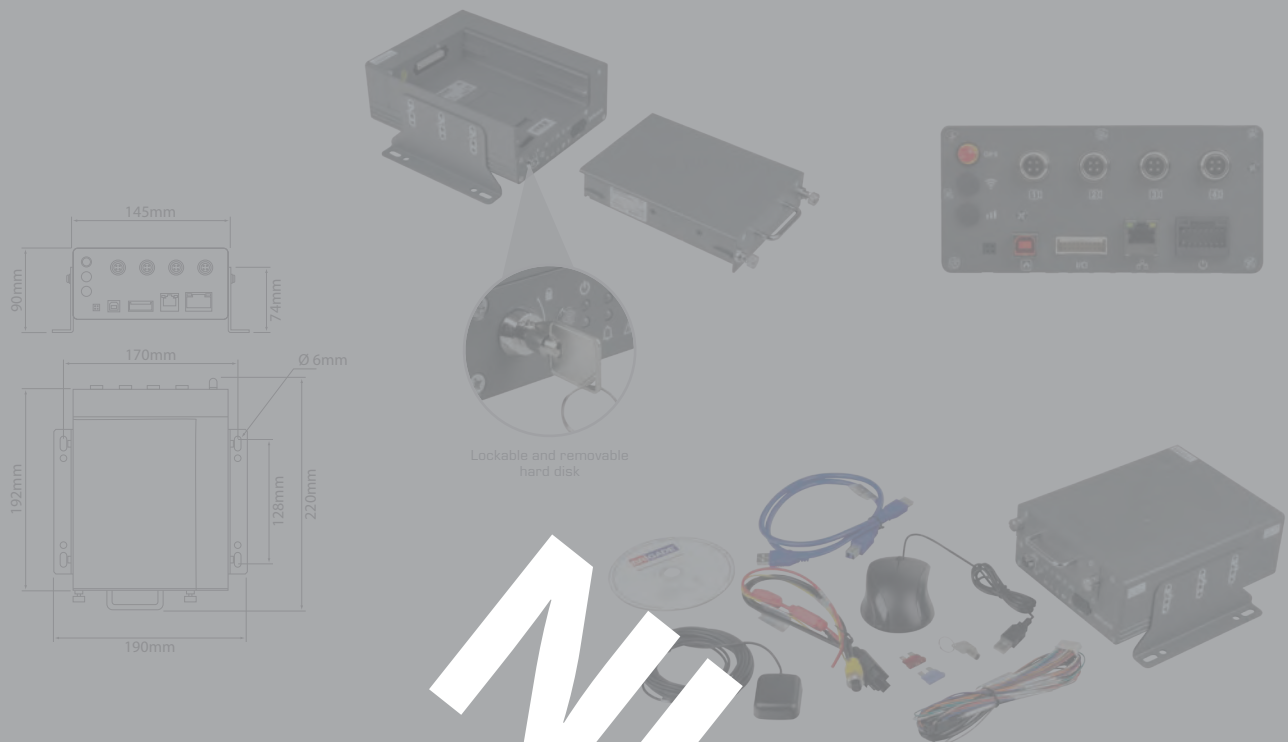
- Prevent false insurance claims such as 'crash for cash' scams
- Protection for drivers who may be wrongly accused
- Provides irrefutable evidence in the case of accidents and legal proceedings
- Useful in reducing shrinkage and catching perpetrators
- Encourages driver best practice, so less vehicle damage and accidents
- Enables more effective driver training
- Vandalism deterrent
- Can help to lower insurance premiums
- Peace of mind for passengers and drivers

MDR Dashboard

MDR Dashboard software is supplied as part of the base kit. This simple to use PC program features standard video playback controls as well as options to save single image jpg's and video files in popular formats.

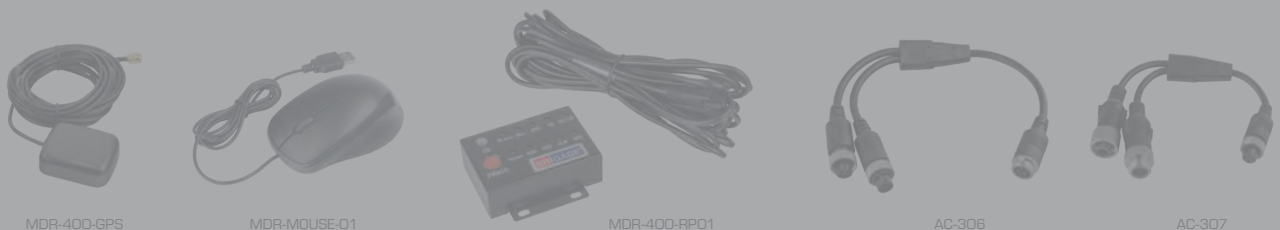
MDR Dashboard can also synchronise with virtual globe programs such as Google™ Earth Plus, allowing you to automatically follow the journey as the video plays.





Mobile Digital Recorder

Part No.	Description	Capacity
MDR-504-1000	MDR including GPS receiver & software	1000GB



Mobile Digital Recorder – Accessories

Part No.	Description
MDR-400-GPS	GPS antenna – 5m cable
MDR-MOUSE-01	Mouse – 1.4m cable
MDR-400-RP01	Remote status & interface panel with panic button – 6m cable
AC-306	Adapter – Connect 1 Select camera to MDR and monitor
AC-307	Adapter – Connect 1 Elite camera to MDR and monitor



Backsense Radar

Backsense® radar systems use a patented Frequency Modulated Continuous Wave (FMCW) radar technology.

Backsense® radar transmits a continuously varying frequency signal which gives a unique time stamp to each instance of the wave. The returning wave is then referenced against this without having to stop transmitting unlike pulsed radar.

The advantages of FMCW over competitor pulsed radar are FMCW has better detection at long distance and greater resistance to electromagnetic noise.

Backsense® radar also controls the radar beam pattern, so the spread of the beam can be restricted to the width of the plant for the length of the detection area, to minimise false alerts on a busy site.

Pulsed Radar



FMCW Radar



Wide Beam



Controlled Beam



Ultrasonic

Ultrasonic sensors generate pulsed high frequency sound waves.

If there is an object in the path of these pulses, they will be reflected back to the sensor as an echo.

By measuring the time difference between the pulse being transmitted and the echo being received, it is possible to determine how far away the object is from the sensor.





Obstacle Detection

Backsense Radar

38

Backsense Network Radar

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Ultrasonic

44

Obstacle Detection

Backsense Radar



- Detects multiple moving and stationary objects.
- High frequency continuous wave provides increased reliability & low false alarm rates.
- Effective through non-metallic surfaces e.g. plastic & fibreglass.
- BS-8000 model has adjustable detection range – 30m to 3m.
- Self-diagnostic function.
- Rugged cable system withstands harsh environmental conditions.
- In-cab 5 stage audible & visual alert.
- Auxiliary output to activate additional items, e.g. cameras, alarms etc.
- Transient, short circuit, overcharge & reverse polarity protection.
- Epoxy filled for maximum vibration resistance.
- Environmentally sealed sensor – IP69K.
- Sensor can be steam & pressure cleaned.
- Multi-voltage.
- 2 year warranty.

Voltage :	12–24V
Current Draw :	0.8A
Radar Frequency :	24.068GHz to 24.218GHz
Auxiliary Output :	0.5A
Weight :	Sensor 0.7kg
	Display 0.3kg
Dimensions :	8.3G
	100G
EMC :	CE & 'e' marked
Approvals :	ISO 16750/13766, EN13309 & FCC
Operating Temperature :	-40°C to 85°C
IP Protection :	Sensor IP69K

In-Cab Audible & Visual Display

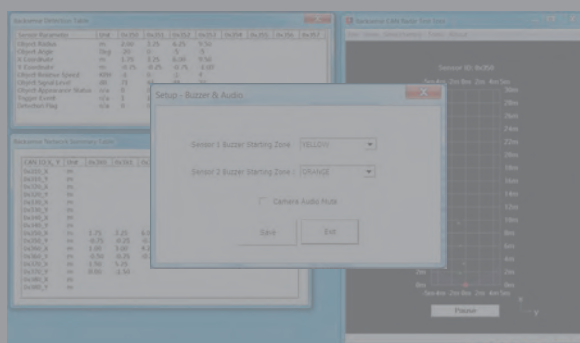
When an object is detected, the in-cab display LEDs illuminate and an audible alert will sound. Each LED represents approximately 1/5 of the detection distance.



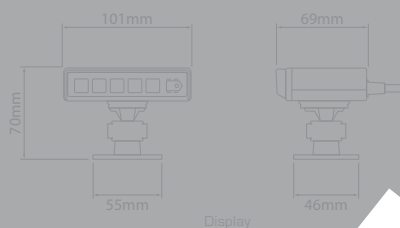
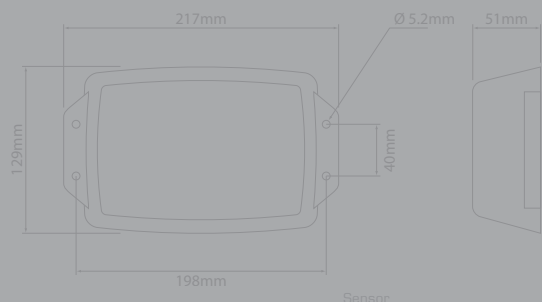
Configurable

BS-8000 is supplied with easy to use PC software for setting the following parameters:

- Detection zone length & width
- Blind area mapping
- Buzzer starting zone
- Trigger output length



Obstacle Detection

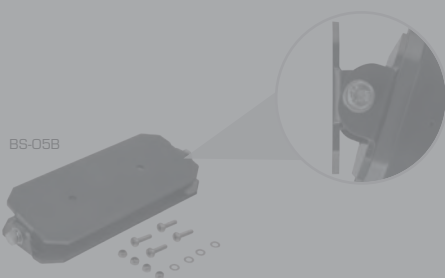


Watch video

Backsense Radar – Kits

Part No.	Type	Detection Distance (m)	Max. Cable Length (m)	Detection Zones
BS-7030	Fixed Range	3	2.5	5 x 0.6m
BS-7045	Fixed Range	4.5	3.5	5 x 0.9m
BS-7060	Fixed Range	6	4.5	5 x 1.2m
BS-8000	Configurable	3 – 30	25	Configurable

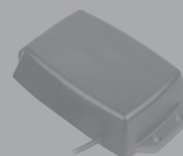
Kit Contents:
1 x Sensor unit
1 x Audio/visual display
1 x 9m Cable (sensor to display)
Sensor & display mounting hardware
Installation & operation manual
BS-8000 kit contains Software CD and USB Cable



Extension Cable



Display



Sensor

Backsense Radar – Accessories & Spare Parts

Part No.	Description
BS-05B	Adjustable sensor bracket Supplied with bolts, washers and nylock nuts.
BS-05DCX	Extension Cable – 5m
BS-09DCX	Extension Cable – 9m
BS-25DCSX	Extension Cable – 25m
BS-7030D	Display – 3m range
BS-7045D	Display – 4.5m range
BS-7060D	Display – 6m range
BS-8000D	Display – Configurable range
BS-70XXS	Sensor – Fixed range. Replace 'XX' with 30, 45 or 60 corresponding to detection range of 3m, 4.5m and 6m
BS-8000S	Sensor – Configurable range



Obstacle Detection

NEW

Monitor is not included in the kit



BS-9001-OSD



- Overlay detection data for up to 2 radar sensors on a single monitor.
- Compiles with CAN 2.0A Base Frame Format.
- Detects multiple moving and stationary objects.
- High frequency continuous wave provides increased reliability & low false alarm rates.
- Adjustable detection range up to 30m.
- 3 trigger inputs used for activating components such as alarms and beacons.
- Environmentally sealed sensor – IP69K
- Sensor can be steam & pressure cleaned.
- Multi-voltage.
- 3 year warranty.

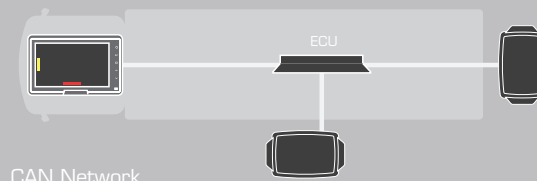
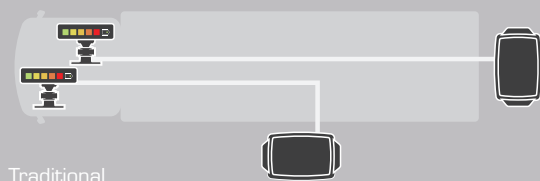
Voltage :	12–24V
Current Draw :	0.4A
Radar Frequency :	24.05GHz to 24.25GHz
Weight :	Radar Sensor 0.7kg
Vibration :	8.3G
Shock :	100G
EMC :	CE & 'e' marked
Approvals :	ISO 16750/13766, EN13309 & FCC
Operating Temperature :	-40°C to 85°C
Ingress Protection :	IP69K

Backsense Network Radar

Brigade's Backsense® Network Radar is the next generation of radar-based obstacle detection. Due to the number of complex blind spots on a vehicle, a single radar cannot always provide the detection required. On top of this, multiple in-cab displays for multiple radars can be more of

a distraction than a benefit.

Aimed at OEM and specialist applications, Brigade's Network Radar with OSD kit allows you to connect and link 2 sensors to cover large, sometimes complex blind spot zones around a vehicle or machine.



On-Screen Display

Multiple radars with individual in-cab displays can cause confusion and also be a challenge to install. Brigade's latest innovation, the Backsense® OSD (On-screen Display) ECU allows for the use of 2 Backsense® Network Radar units to be combined with any Brigade Backeye® camera system.

Radar detection data is overlaid transparently* along the edge of the monitor so as not to obscure the camera image with the audible warning via the monitor speakers.

*Transparency level can be adjusted via software.

When an object is detected in the YELLOW zone, the associated on-screen indicator will turn yellow and a pulsed audible alert is played through the monitor's speaker. 📢)))))) 📢



When object is detected in RED zone, the associated on-screen indicator will turn red and a constant audible alert is played through the monitor's speaker. 📢))))))))) 📢

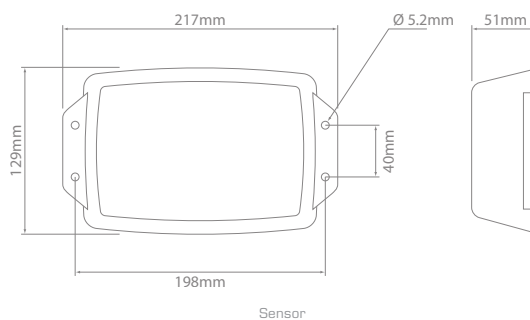
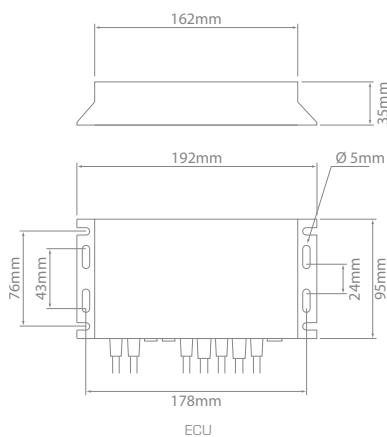


Each radar sensors detection notification can be assigned to one of eight predefined positions overlaid around the edge of a monitor.

Obstacle Detection



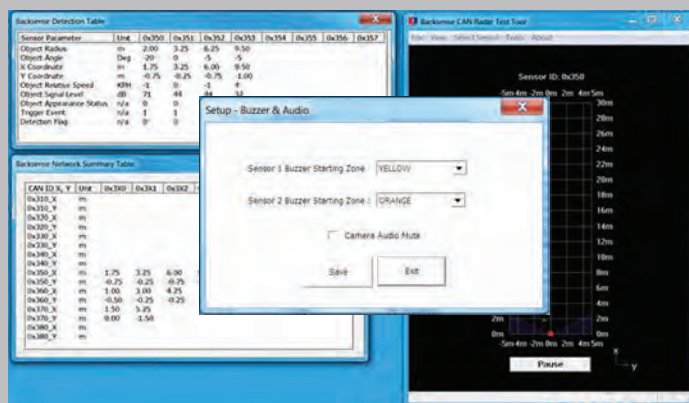
Watch video



Configurable

Backsense® Network Radar with OSD kit is supplied with easy to use PC software for setting the following parameters :

- Detection zone length & width.
- Blind area mapping.
- Buzzer starting zone.
- Trigger output length.



Backsense Network Radar – OSD Kit NEW

Part No.	Detection Distance (m)	Detection Width (m)	Camera Inputs	Trigger Inputs	Outputs*
BS-9001-OSD	3 – 30	2 – 10	2	3	3 x 0.5A

Supports up to 2 Backsense® Network Radars.

Compatible with Brigade Backeye systems, including Backeye 360 and Brigade Digital Mobile Recorders.

*1 x output for alarm use only.

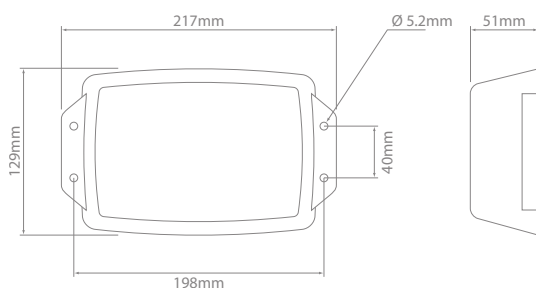
Kit contents:

- 1x BS-9000 Sensor Unit
- 1x OSD ECU
- 3x Network Y Cable
- 2x CAN Bus Terminator
- 1x 9m Extension Cable
- 1x Network Power Input Cable
- Sensor Mounting Hardware

Manual & software available on IONNIC website



Obstacle Detection



BS-9000 CAN Integration

The Backsense® Network Radar Sensor (BS-9000) can be integrated into a Controller Area Network (CAN) and configured to interact and display sensor data on existing components and screens.

Backsense Network Radar – Sensor



Part No.	Description	CAN	Baud Rate	Detection Distance (m)	Detection Width (m)
BS-9000	Single network radar sensor unit	SAE J1939	500K	3 – 30	2 – 10



Backsense Network Radar – Accessories



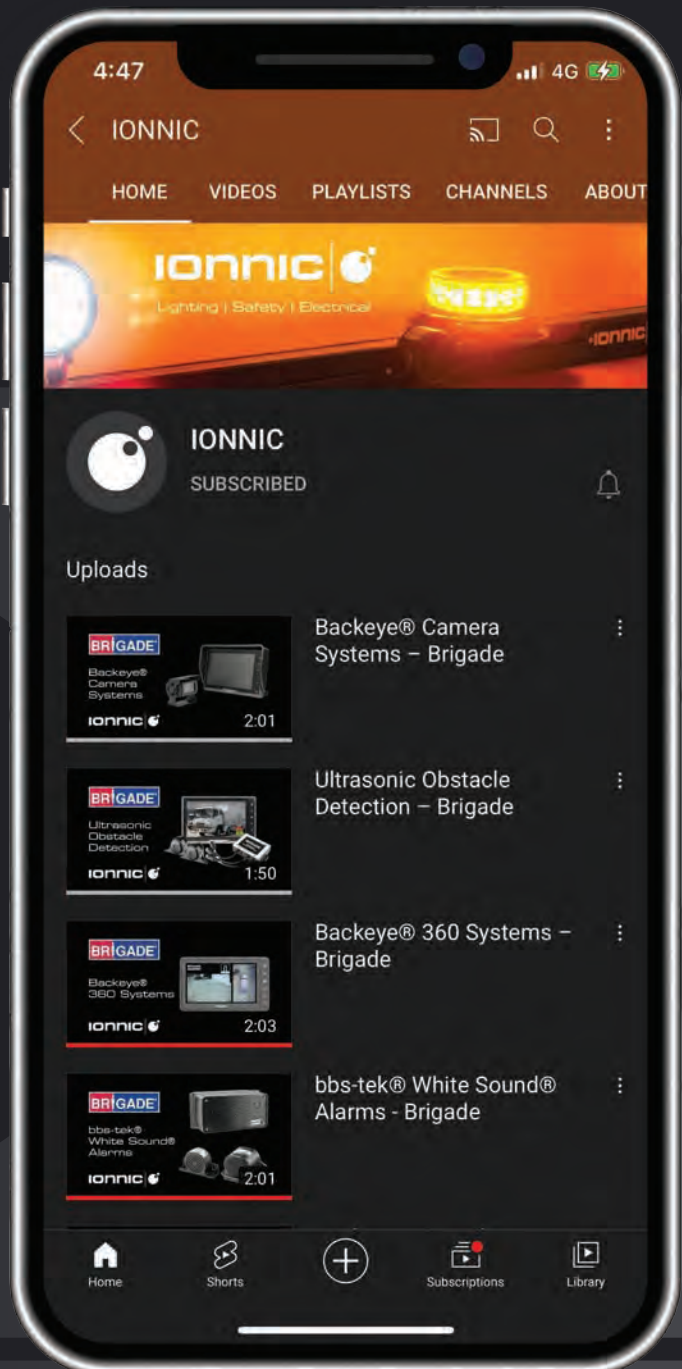
Part No.	Description
BS-05B	Adjustable sensor bracket Supplied with bolts, washers and nylock nuts.
BS-05DCX	Extension cable – 5m
BS-09DCX	Extension cable – 9m
BS-25DCSX	Extension cable – 25m
BS-00NYC	Network 'Y' cable
BS-00NT	120 Ohm CAN bus terminator
BS-02PIC	Network power input cable – 2m

IONNIC YouTube Channel

Product videos,
configuration
tutorials and more



SUBSCRIBE



Obstacle Detection



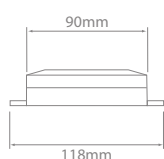
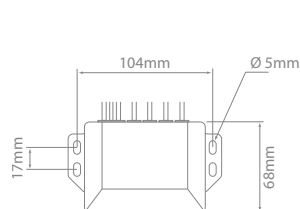
- Obstacle detection rate under 200 milliseconds.
- Adjustable max. detection distance via dip switch.
- Backscan includes in-cab visual display.
- OSD module overlays detection data for up to 2 Ultrasonic sensors on a single monitor.
- 3 stage warning zones.
- Environment Learning Mode prevents false alarms.
- Multiple sensor mount types included.
- Backscan incorporates 50cm compensation range for inboard mounted sensors (selectable via dip switch).
- One trigger output.
- Self diagnostic function.
- Sensors & ECU environmentally sealed.
- Multi-voltage.
- 3 year warranty.



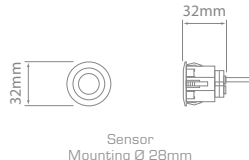
Watch video



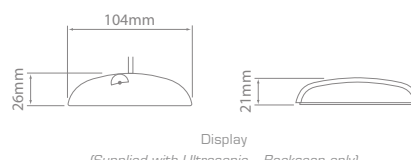
Voltage :	12-24V
Current Draw :	0.2A
Approvals :	RoHS, CE & 'e' marked
Operating Temp :	-30°C to 80°C
Ingress Protection :	Sensors IP68
	ECU IP69K



ECU

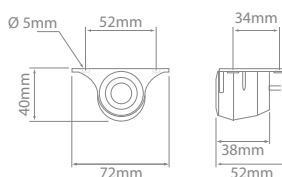


Sensor Mounting Ø 28mm

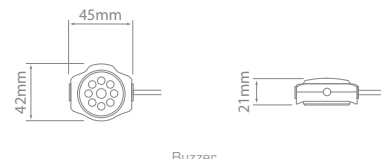


Display

(Supplied with Ultrasonic - Backscan only)



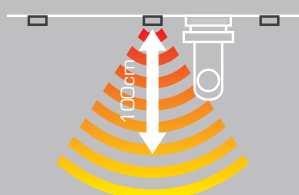
Sensor Pendant Mount Housing



Buzzer

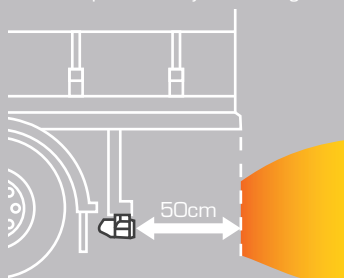
Environment Learning

Environment Learning Mode prevents false alarms from tow-hooks and other ancillary fixed equipment that intrudes into the first 100cm of the detection zone.



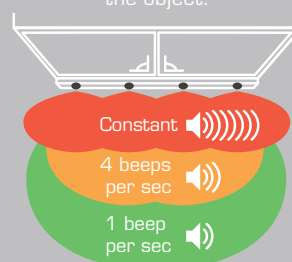
50cm Compensation

50 centimetre compensation for installation to vehicles with in-board bumpers / tray over hang.



Warning Zone

The frequency of the signal changes according to the distance from sensors to the object.

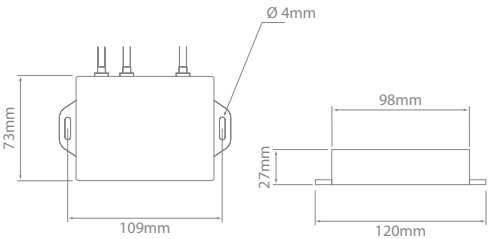


Obstacle Detection

On-Screen Display

Ultrasonic OSD (On-Screen Display) Module allows for the use of up to 2 Ultrasonic Obstacle Detection systems to be combined with any Brigade Backeye® camera system.

Detection data is overlaid transparently along the edges of the monitor, with its 3-stage audible and visual warning ensuring the driver is aware if any obstacle is in the danger zone.



Ultrasonic – On-Screen Display Module NEW

Part No.	Camera Input	Trigger Input	Ultrasonic Detection System Input	Ultrasonic Detection System Output
UDS-OSD20-ECU	2	2	2	2
2 year warranty.				

4 sensor system fitted to rear of vehicle as an invaluable aid to safe reversing. Gives greater protection to pedestrians and workers, whilst minimising damage to vehicle and other objects.



Ultrasonic – Backscan supplied with a graduated visual and audible warning display.



Ultrasonic – Backscan

Part No.	Max. Detection Distance (m)	
	Outer	Inner
BS-4000W	2.5/0.6*	2.5

*Outer sensors only, detection range adjustable via dip switch.

Kit contents:

- 4 x Sensor
- 1 x Display
- 1 x ECU
- 4 x 0° Sensor Bracket
- 4 x 11° Sensor Bracket
- 4 x Pendant Mount Housing
- 4 x Sensor Harness – 2.5m
- 1 x Display Harness – 15m

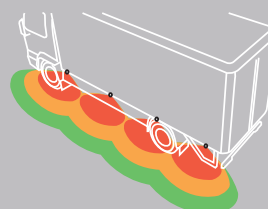


Obstacle Detection



4 sensor system fitted to side of vehicle increasing safety when turning or low speed manoeuvring. Particularly relevant for near side blind spot where cyclists or pedestrians can otherwise go undetected.

SS-4100W features mute function that silences the buzzer after 4 seconds if there is no movement from a detected object or vehicle.



Ultrasonic – Sidescan

Part No. Max. Detection Distance (m)
SS-4100W 1.0/1.5

Kit contents:

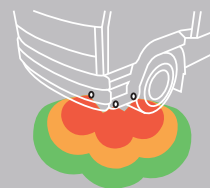
4 x Sensor	4 x Pendant Mount Housing
1 x Buzzer	4 x Sensor Harness – 4.5m
1 x ECU	1 x Buzzer Harness – 10m
4 x 0° Sensor Bracket	2 x Extension Cable – 2.5m
4 x 11° Sensor Bracket	



3 sensor system fitted to near side corner of vehicle cab detects objects in front near side blind spot.

Minimises the risk of damage to the vehicle cab whilst manoeuvring at low speed.

CS-3100 features mute function that silences the buzzer after 4 seconds if there is no movement from a detected object or vehicle.



Ultrasonic – Cornerscan

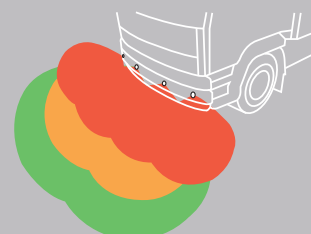
Part No. Max. Detection Distance (m)
CS-3100 0.6/1.0

Kit contents:

3 x Sensor	3 x 18° Sensor Bracket
1 x Buzzer	3 x 26° Sensor Bracket
1 x ECU	3 x Sensor Harness – 2.5m
3 x 11° Sensor Bracket	1 x Buzzer Harness – 2.5m



4 sensor system fitted to front of vehicle improving safety when manoeuvring at low speed. Particularly relevant for front blind spot on high cabs where low objects or pedestrians can be hidden.



Ultrasonic – Frontscan

Part No. Max. Detection Distance (m)
Outer Inner
FS-4000W 2.5/0.6 2.1/1.0

Kit contents:

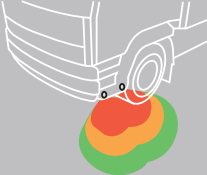
4 x Sensor	4 x 18° Sensor Bracket
1 x Buzzer	4 x 26° Sensor Bracket
1 x ECU	4 x Sensor Harness – 2.5m
4 x 11° Sensor Bracket	1 x Buzzer Harness – 2.5m

Obstacle Detection

2 sensor system fitted to near side cab step giving awareness to the driver of objects to the side when turning and reversing.

Minimises the risk of damage to the vehicle cab from otherwise unseen objects.

ST-2100 features mute function that silences the buzzer after 4 seconds if there is no movement from a detected object or vehicle.





Ultrasonic – Stepscan

Part No.	Max. Detection Distance (m)
ST-2100	0.6/1.0

Kit contents:	
2 x Sensor	2 x 18° Sensor Bracket
1 x Buzzer	2 x 26° Sensor Bracket
1 x ECU	2 x Sensor Harness – 2.5m
2 x 11° Sensor Bracket	1 x Buzzer Harness – 2.5m



Ultrasonic – Spare Parts NEW

Part No.	Description
UDS-000HSS	Sensor – suits Backscan & Frontscan
UDS-00SM	Pendant Mount Housing, use in conjunction with Sensor Bracket
UDS-00SSK	Sensor Bracket Kit Kit contents: 4 x 0° & 4 x 11° bracket
UDS-05SS	Sensor Bracket Kit Kit contents: 2 x 5° bracket
UDS-11SS	Sensor Bracket Kit Kit contents: 2 x 11° bracket
UDS-18SS	Sensor Bracket Kit Kit contents: 2 x 18° bracket
UDS-26SS	Sensor Bracket Kit Kit contents: 2 x 26° bracket
UDS-4.5SC	Sensor Extension Cable – 4.5m
UDS-2.5BC	Buzzer Extension Cable – 2.5m
UDS-10BC	Buzzer Extension Cable – 10m
UDS-15BC	Buzzer Extension Cable – 15m





White Sound shh...shh not bleep...bleep

The bbs-tek® reversing alarms use multi-frequency white sound, AKA broadband sound instead of the traditional single frequency sound of a conventional tonal alarm. The sound dissipates much quicker, is directional and is localised in the danger zone, resulting in an enormous reduction in noise nuisance and complaints.

Operators involved in all types of physical movement from conventional road transport including trucks and RCV's, buses and low-loaders to off-road applications including quarry vehicles, forklifts, earthmoving equipment and agricultural vehicles, are already experiencing the unique benefits of the bbs-tek® reversing alarm system.

Not only are noise nuisance and complaints considerably reduced, but the unique localisation feature of the bbs-tek® reversing alarm means that in busy environments you can tell instantly where the sound is coming from and, therefore, which vehicle is reversing.

This makes the bbs-tek® reversing alarms much safer when used in areas that have several vehicles moving.

- **Eliminates noise nuisance and complaints.**

White sound is easy on the ear and dissipates at twice the rate of conventional alarms, creating a better work site and less environmental disturbance.

- **Locatable.**

With bbs-tek® reversing alarms it is much easier to tell which vehicle is reversing toward you within a noisy environment.

- **Directional.**

The sound is concentrated within the danger zone, increasing people's response to the alarm and diminishing the chance of it being ignored.

Sounder Units

Not all reversing alarms are built the same. Each model in the Brigade range uses a different type of sounder unit appropriate for its application.

Driver

Ideal option for high sound pressure level (SPL) models. The Driver sounder unit incorporates a large magnet and voice coil for superior output. Brigade Driver models are tough, durable and fully waterproof (IP68), so units can be steam-cleaned and pressure washed. Excellent sound quality.

Conventional Cone Speaker

A good option for medium and low SPL models, subject to design and materials used. *Not suitable for high SPL models over 102 dB(A) due to cone speaker over stress.* Brigade's cone speakers are tough, durable and fully waterproof (IP68), so can be steam-cleaned, pressure washed and offer long life in extreme conditions. Great sound quality, even under extremes of temperature and other adverse conditions.

Lifetime Warranty



bbs-tek® reversing alarms are so robust they have a lifetime warranty that covers the alarm for the life of the vehicle.



White Sound Reversing Alarms

bbs-tek Self-Adjusting

50

bbs-tek Fixed Volume

52

White Sound Reversing Alarms

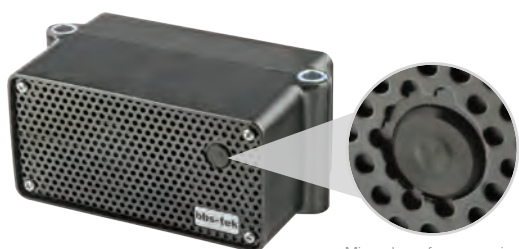


BBS107SA



- Unique multi-frequency white sound.
- Continuously self-adjusts to 5–10dB above ambient sound pressure levels.
- Eliminates noise nuisance complaints.
- Sound confined to the danger zone.
- Instantly locatable sound.
- Environmentally sealed – IP68.
- Epoxy filled for maximum vibration resistance.
- Can be steam & pressure cleaned.
- Multi-voltage.
- Lifetime warranty.

Body :	Heavy Duty	Glass Reinforced Nylon
	Medium Duty	AES
Cable Length :		1m
Vibration :		10G
EMC :		CE, C-Tick & 'e' marked
Standards :	Conforms to SAE J994 environmental	
Operating Temperature :		-40°C to 85°C
Ingress Protection :		IP68



Microphone for measuring ambient SPL



Microphone for measuring ambient SPL

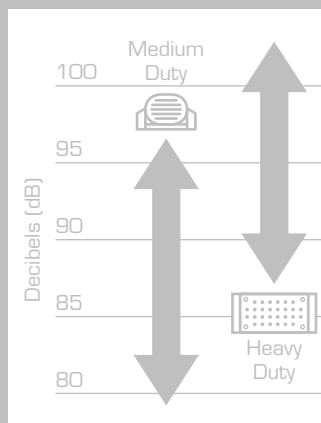
bbs-tek® Self-Adjusting

Take the guess work out of choosing the best sound pressure level (SPL) for your application.

Ideal for vehicles or machinery working in areas with widely differing ambient noise levels, where a fixed-volume reversing alarm will be either too quiet in loud environments (very hazardous), or too noisy in quiet environments (irritating and a nuisance).

Brigade bbs-tek® self-adjusting reversing alarms utilise a small hidden and highly robust microphone to measure ambient SPL. They then self-adjust their own SPL, up or down, to maintain an output of just 5–10dB louder than the surrounding environment.

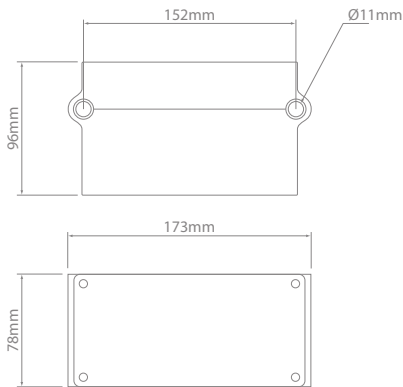
Loud enough to be heard, but not so loud as to cause a nuisance.



White Sound Reversing Alarms

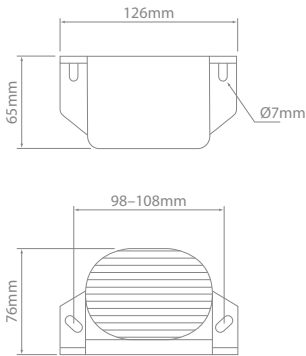


▶ Watch Video



bbs-tek Self-Adjusting – Heavy Duty

Part No.	Voltage	SPL – dB(A) @ 1m	Frequency – kHz	Current Draw (A)	Sounder Unit
BBS107SA	12-24	87 – 107	Multi	1.0	Driver



bbs-tek Self-Adjusting – Medium Duty

Part No.	Voltage	SPL – dB(A) @ 1m	Frequency – kHz	Current Draw (A)	Sounder Unit
BBS97SA	12-24	77 – 97	Multi	1.0	Speaker
BBS97SAHV	36-80	77 – 97	Multi	0.15	Speaker



White Sound Reversing Alarms

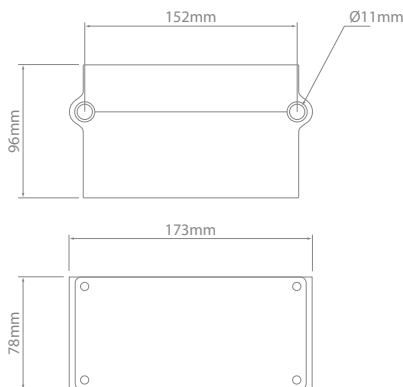


BBS92HV



- Unique multi-frequency white sound.
- Eliminates noise nuisance complaints.
- Sound confined to the danger zone.
- Instantly locatable sound.
- Environmentally sealed – IP68.
- Epoxy filled for maximum vibration resistance.
- Can be steam & pressure cleaned.
- Multi-voltage.
- Lifetime warranty.

Body :	Heavy Duty	Glass Reinforced Nylon
	Medium Duty	AES
Cable Length :		1m
Vibration :		10G
EMC :		CE, C-Tick & 'e' marked
Standards :	Conforms to SAE J994 environmental	
Operating Temperature :		-40°C to 85°C
Ingress Protection :		IP68



White Sound
shh...shh
not bleep...bleep

The bbs-tek® constant tone speaker uses multi-frequency white sound instead of the traditional single frequency sound. White Sound dissipates much quicker, is directional, and is localised in the danger zone, resulting in an enormous reduction in noise nuisance and complaints.

The unique localisation feature of the bbs-tek® White Sound means that in busy environments you can tell instantly where the sound is coming from and, therefore, the direction of possible danger.

This makes bbs-tek® White Sound® much safer when used in areas that have several vehicles moving.

bbs-tek Fixed Volume – Heavy Duty

Part No.	Voltage	SPL – dB(A) @ 1m	Frequency – kHz	Current Draw (A)	Sounder Unit
BBS102	12–24	102	Multi	1.0	Driver
BBS107	12–24	107	Multi	1.0	Driver

White Sound Reversing Alarms

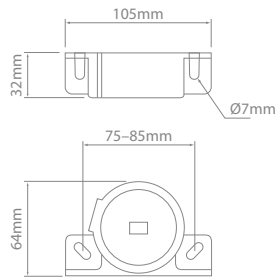


Fig 1

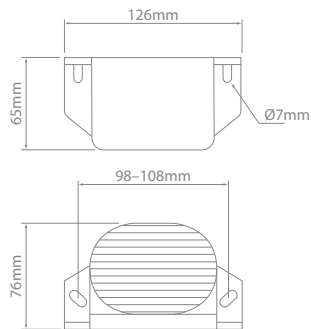
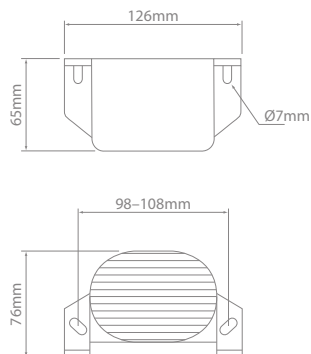


Fig 2



bbs-tek Fixed Volume – Medium Duty

Part No.	Voltage	SPL – dB[A] @ 1m	Frequency – kHz	Current Draw (A)	Sounder Unit	Fig
BBS82	12–24	82	Multi	0.2	Speaker	1
BBS87	12–24	87	Multi	0.2	Speaker	1
BBS92	12–24	92	Multi	0.2	Speaker	1
BBS97	12–24	97	Multi	0.2	Speaker	1
BBS82HV	36–80	82	Multi	0.15	Speaker	2
BBS92HV	36–80	92	Multi	0.15	Speaker	2

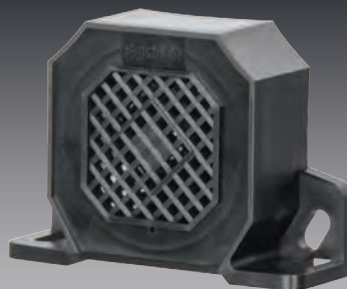
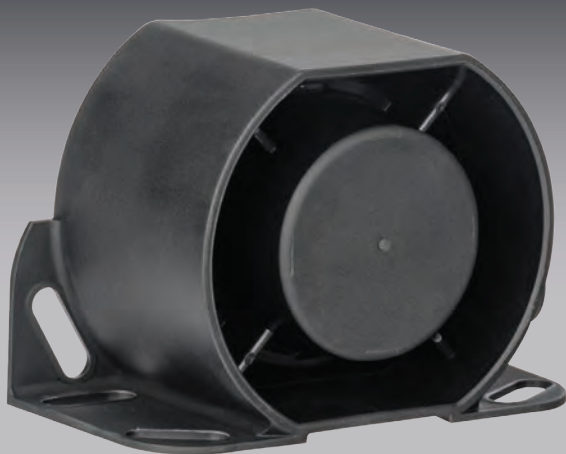


bbs-tek Fixed Volume – Medium Duty – Tanker Specification

Part No.	Voltage	SPL – dB[A] @ 1m	Frequency – kHz	Current Draw (A)	Sounder Unit
BBS92ADR	12–24	92	Multi	0.3	Speaker

Tanker specification features 460mm cable with armoured conduit.



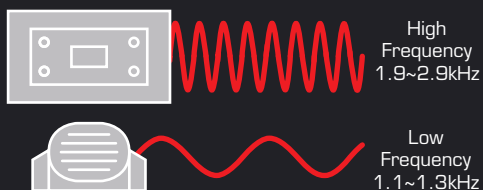


Tonal Alarms

The traditional reversing alarm 'bleep, bleep, bleep' sound is also known as a 'Tonal' alarm.

Tonal alarms operate at one fixed frequency (kHz).

The frequency output is different for each model and can be important in the effectiveness of the alarm in differing workplace environments.



Self Cleaning Ports

Reversing alarms can be used in hostile environments and suffer from debris, water and dust ingress.

Brigade Heavy Duty reversing alarm models use a double reflex horn and patented self-cleansing Pressure Port System™.

This feature uses pressure created by the dome speaker to pump mud, dust and water out of the sound chamber. The result is an increased reliability when used in hostile environments.



Sounder Units

Not all reversing alarms are built the same. Each model in the Brigade range uses a different type of sounder unit appropriate for its application.

Dome Speaker

Ideal option for high sound pressure level (SPL) models. The Dome Speaker utilises a large magnet, voice coil with a conventional Cone Speaker mated to an acoustically designed true-horn. This generates high SPL with superb sound quality from a relatively small unit.

Brigades Dome Speakers are tough, durable, and guaranteed waterproof (IP68), so can be steam-cleaned and pressure washed. Working life and sound quality are unimpaired by extremes of temperature and other adverse conditions.

Conventional Cone Speaker

A good option for medium and low SPL models, subject to design and materials used. *Not suitable for high SPL models over 102 dB(A) due to cone speaker over stress.*

Brigade's cone speakers are tough, durable and fully waterproof (IP68), so can be steam-cleaned, pressure washed and offer long life in extreme conditions. Great sound quality, even under extremes of temperature and other adverse conditions.



Tonal Reversing Alarms

Tonal Self-Adjusting	56
Tonal Manual-Adjusting	58
Tonal Fixed Volume	59
Economy Fixed Volume	60

Tonal Reversing Alarms



SA800



SA400



- Continuously self-adjusts to 5–10dB above ambient sound pressure levels.
- Frequency optimised for construction equipment in heavy duty models.
- Patented 'Dome Speaker' technology.
- TE DEUTSCH connector on IDC model.
- Environmentally sealed – IP68.
- Epoxy filled for maximum vibration resistance.
- Can be steam & pressure cleaned.
- Multi-voltage.
- Lifetime warranty.

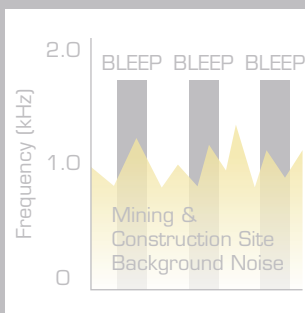
Voltage : 12–24V
Body : SA400 AES
 SA800, SA917 Glass Reinforced Nylon
Vibration : 10G
EMC : CE, C-Tick & 'e' marked
Standards : Conforms to SAE J994 environmental
Operating Temperature : -40°C to 85°C
Ingress Protection : IP68

Frequency for HD Models

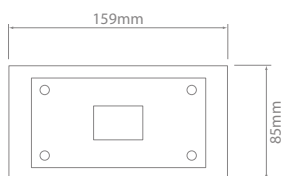
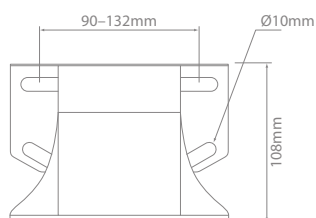
A 'Heavy Duty' tonal reversing alarm doesn't just mean it is built to withstand the rigours of a harsh environment, it must also perform at it's best for the task at hand.

Carefully optimised frequency characteristics make the Heavy Duty range clearly audible under the typical working conditions found in mining, construction and urban/highway environments.

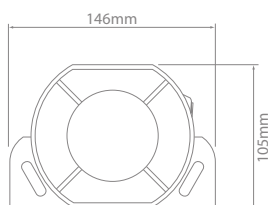
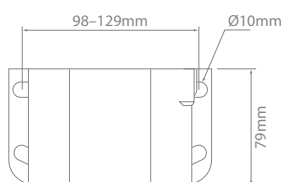
Heavy Duty models use a frequency of 1.9kHz, optimised for construction equipment, as lower frequencies are likely to be masked by construction site noise, which is typically around 1.0kHz.



Tonal Reversing Alarms



SA800, SA800IDC



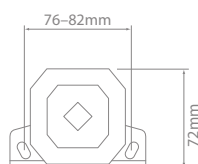
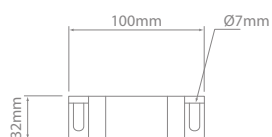
SA917



Tonal Self-Adjusting – Heavy Duty

Part No.	SPL – dB(A) @ 1m	Frequency – kHz	Current Draw (A)	Sounder Unit	Self Cleaning Port	Cable Length (mm)
SA800	87 – 112	1.9	0.3	Dome Speaker	•	300
SA800IDC	87 – 112	1.9	0.3	Dome Speaker	•	135
SA917	87 – 112	0.7 – 2.8	0.6	Speaker	—	150

SA917 is not a Brigade product.



Tonal Self-Adjusting – Medium Duty

Part No.	SPL – dB(A) @ 1m	Frequency – kHz	Current Draw (A)	Sounder Unit	Self Cleaning Port	Cable Length (mm)
SA400	87 – 102	1.25	0.2	Speaker	—	1000



Tonal Reversing Alarms



- Mute function.
- Environmentally sealed – IP68.
- Epoxy filled for maximum vibration resistance.
- Can be steam & pressure cleaned.
- Multi-voltage.
- 2 year warranty.

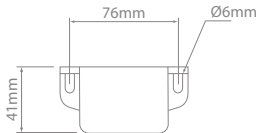
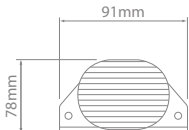
Voltage :	12–24V
Body :	AES
Vibration :	10G
EMC :	CE, C-Tick & 'e' marked
Standards :	Conforms to SAE J994 environmental
Operating Temperature :	-40°C to 60°C
Ingress Protection :	IP68

Self-Adjusting vs Manual-Adjusting

Self-Adjusting reversing alarms utilise a small hidden and highly robust microphone to measure ambient SPL. They then self-adjust their own SPL, up or down, to maintain an output of just 5–10dB louder than the surrounding environment.

Manual-Adjusting reversing alarms temporarily mute the output when the operator double engages reverse gear. The alarm will reset automatically once reverse gear is disengaged.

Check with local regulations for suitability of this type of alarm in regards to applicable laws / regulations.



Tonal Manual-Adjusting – Medium Duty

Part No.	SPL – dB(A) @ 1m	Frequency – kHz	Current Draw (A)	Sounder Unit	Cable Length (mm)
BA32NS	0 – 90	1.1	0.2	Speaker	1000

Tonal Reversing Alarms

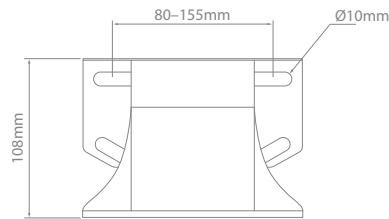
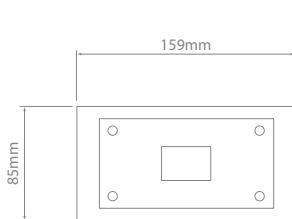
- Frequency optimised for construction equipment in heavy duty models.
- 'Dome Speaker' technology.
- Self cleaning port in heavy duty models.
- Environmentally sealed – IP68.
- Epoxy filled for maximum vibration resistance.
- Can be steam & pressure cleaned.
- Multi-voltage.
- Lifetime warranty.



BA560

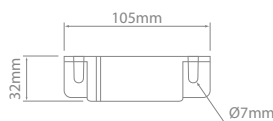
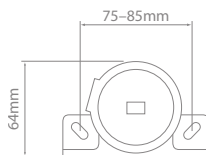
Tonal Fixed Volume

Voltage : 12-24V
Body : Heavy Duty Glass Reinforced Nylon
 Medium Duty AES
Vibration : 10G
EMC : CE, C-Tick & 'e' marked
Standards : Conforms to SAE J994 environmental
Operating Temperature : -40°C to 85°C
Ingress Protection : IP68



Tonal Fixed Volume – Heavy Duty

Part No.	SPL – dB(A) @ 1m	Frequency – kHz	Current Draw (A)	Sounder Unit	Cable Length (mm)
BA890	112	1.9	0.5	Dome Speaker	300



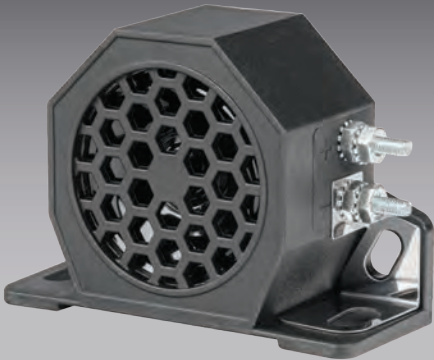
Tonal Fixed Volume – Medium Duty

Part No.	SPL – dB(A) @ 1m	Frequency – kHz	Current Draw (A)	Sounder Unit	Cable Length (mm)
BA560	97	1.25	0.2	Speaker	1000
BA570	102	1.25	0.3	Speaker	1000



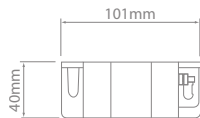
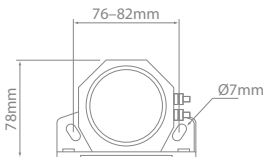
Tonal Reversing Alarms

Economy Fixed Volume



- Ideal for price conscious applications.
- Environmentally sealed – IP67
- Epoxy filled for maximum vibration resistance.
- Multi-voltage.
- 2 year warranty.

Voltage :	12-80V
Body :	AES
Vibration :	10G
EMC :	CE & 'e' marked
Operating Temperature :	-40°C to 60°C
Ingress Protection :	IP67



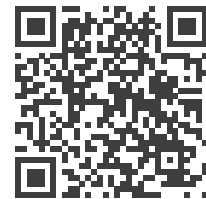
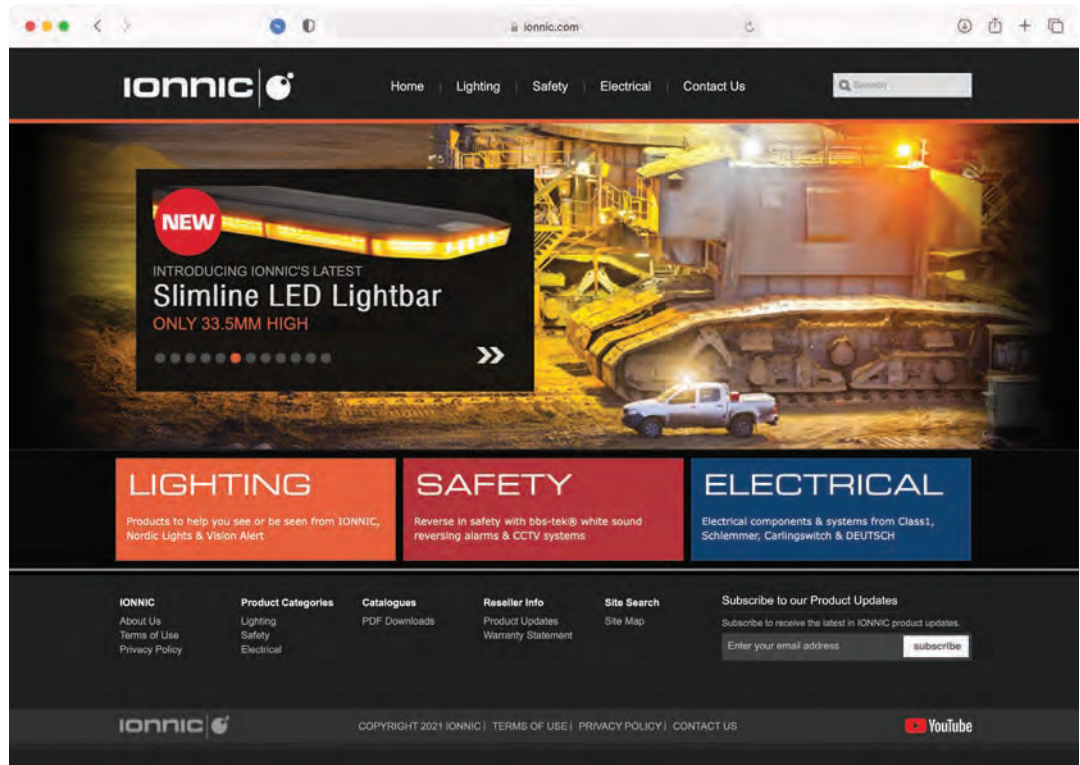
Economy Fixed Volume – Medium Duty

Part No.	SPL – dB(A) @ 1m	Frequency – kHz	Current Draw (A)	Sounder Unit
585-1	97	1.3	0.1	Speaker

ionnic.com



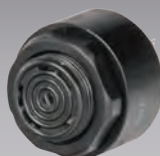
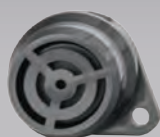
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Check out videos on a range of products

The IONNIC website – for all the most up to date products and info





Alarms, Horns & Buzzers

Speaking Turn Alarms

64

Disc & Scroll Horns

66

Warning Buzzers

68

Alarms, Horns & Buzzers

Speaking Turn Alarms

NEW



SS-BC-08

- Real speaking message – "SSH, SSH, CAUTION, TRUCK TURNING LEFT".
- Multi-voltage.
- Environmentally sealed – IP67.
- 2 year warranty.



Voltage : 12-24V
Volume : 90dB(A)
Speaker Body : AES
Bracket : Powder Coated Aluminium
EMC : ECE R10
Approvals : Speaker CE & 'e' marked
Ingress Protection : IP67

Turn Signal Alarms

Larger vehicles by their very nature have blind spots that make it extremely difficult for a driver to see smaller vehicles such as motorbikes, cyclists and even pedestrians - a major and increasing source of injury and fatalities are trucks turning left.

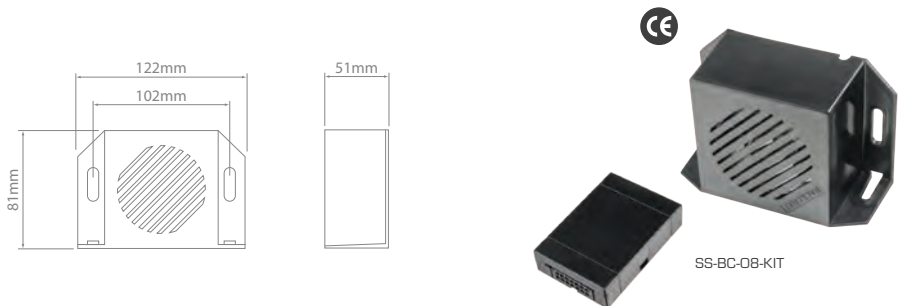
Speaking Turn Alarms are designed to provide an effective solution for the left turn blind spot hazard. The alarm operates when the vehicle's left side indicator is activated playing a speaking message, making cyclists and pedestrians aware they are potentially in the danger zone of the left turning vehicle beside them.



Scan to listen



Alarms, Horns & Buzzers



Speaking Turn Alarms – Kits NEW

Part No.	Description
SS-BC08-KIT	Speaker Unit & Turn Signal Module

LED	Cable Length (mm)
—	450

Supplied with mounting hardware.



SS-BC-08



TS01

Speaking Turn Alarms – Components NEW

Part No.	Description
SS-BC-08	Speaker Unit
TS01	Turn Signal Module, required when connecting alarm directly to vehicle indicator circuit

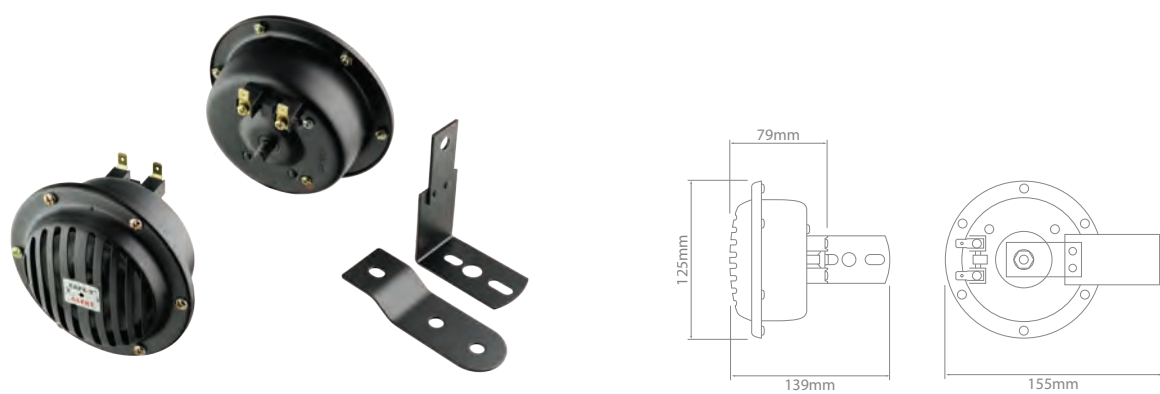


Alarms, Horns & Buzzers



- High & low frequencies.
- Twin terminals.
- Dual mounting bracket.
- 12 or 24V models for Disc Horns.
- Heavy Duty model ideal for truck, bus & mining applications.

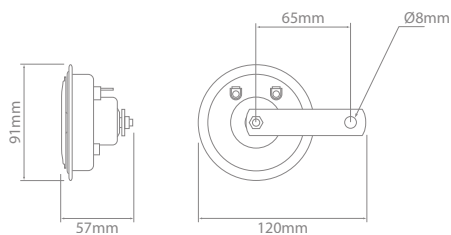
Terminal Size : 6.3mm Blade



Disc Horn – Heavy Duty

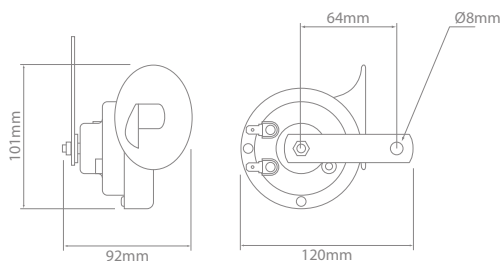
Part No.	Voltage	SPL – dB(A) @ 1m	Frequency – Hz
SY100	12	120	395
SY101	24	120	395

Alarms, Horns & Buzzers



Disc Horn

Part No.	Voltage	SPL – dB(A) @ 1m	Frequency – Hz	Frequency
D2H12	12	110	420	High
D2H24	24	110	420	High
D2L12	12	110	335	Low
D2L24	24	110	335	Low
D212KIT	12	Kit contents: 1 x D2H12 & 1 x D2L12		
D224KIT	24	Kit contents: 1 x D2H24 & 1 x D2L24		

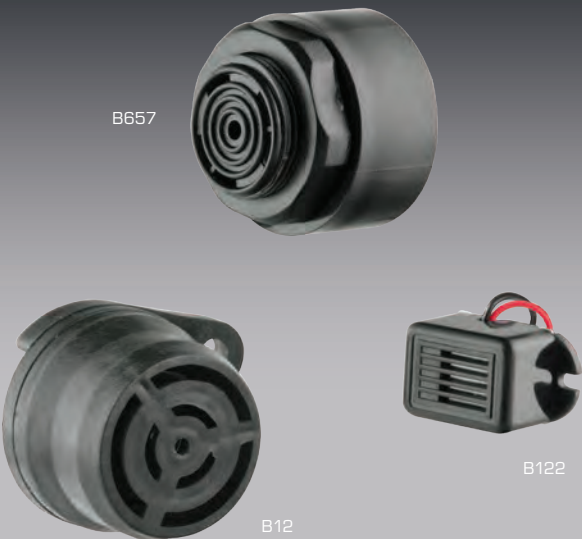


Scroll Horn

Part No.	Voltage	SPL – dB(A) @ 1m	Frequency – Hz	Frequency
S2H12	12	110	505	High
S2L12	12	110	425	Low

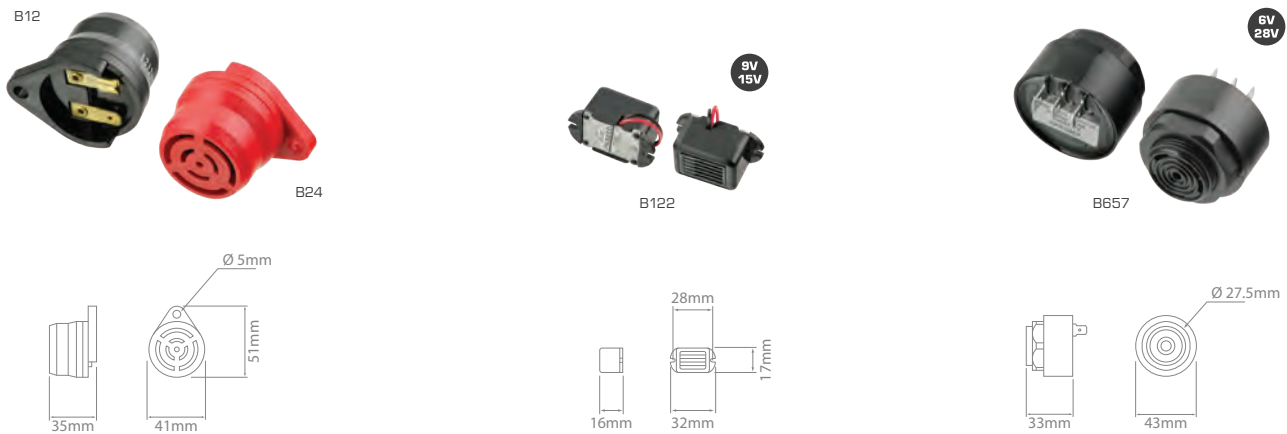


Alarms, Horns & Buzzers



- Models available from 6 to 28 volt.
- Surface or panel mounts.
- Up to 85dB(A) output.
- Continuous or pulsed output from B657.
- B567 epoxy filled for vibration resistance.

Terminal Size :	B12, B24	6.3mm
	B657	6.6mm
Cable Length :	B122	120mm



Warning Buzzers

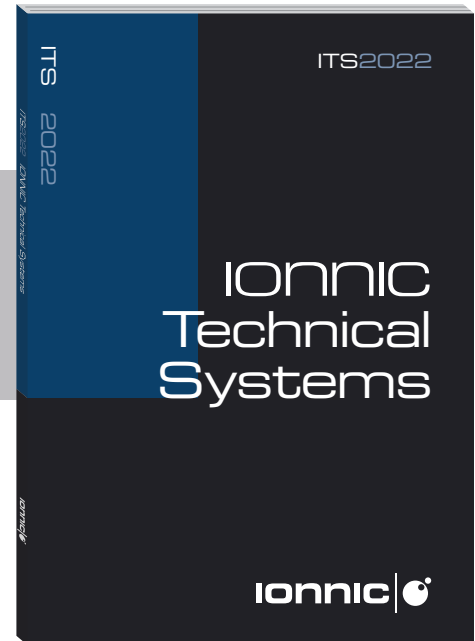
Part No.	Voltage	SPL – dB(A) @ 1m	Frequency – kHz	Current Draw (A)	Sounder Unit
B12	12	85	350	0.01	Piezo
B24	24	85	350	0.02	Piezo
B122	9–15	75 @ 20cm	400	0.5	Mechanical
B657	6–28	85	2900	0.18	Piezo

Catalogues

- Display / HMI
- I/O Controllers
- Governors

- Auxiliary Controllers
- Accessories

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Electrical



- DT Series
- DTM Series
- DTP Series
- DTHD Series
- HD10 Series

- HD30/HDP20 Series
- DRC Series
- Contacts & Plugs
- Deutsch Connector Tools

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Sirens & Intercoms

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BACKCHAT Intercom

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Sirens & Intercoms

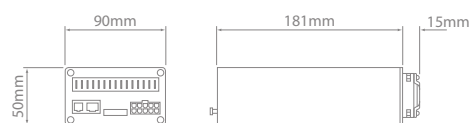


SA500-12

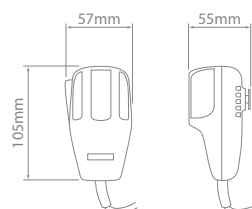
- Up to 5 tones available.
- Horn activated tone changing.
- Public address on all models.
- Radio re-broadcast on selected models.
- Softstart on Remote Head units.
- 12 & 24V models.



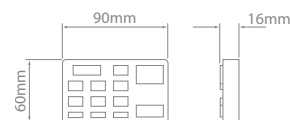
Control up to 8 individual lighting functions.
Program the ALERT key to activate any
combination of lights with a siren tone.



ECU



Microphone



Control Pad

Siren Amplifier & PA – Remote Head with Control Pad – 100 Watt

Part No.	Voltage	Features	Tones
809-001	12	<ul style="list-style-type: none"> • Public Address • Radio Re-Broadcast • Park Kill • Horn Ring Cycler 	<ul style="list-style-type: none"> • Wail • Yelp • Hi-Low
809-002	24	<ul style="list-style-type: none"> • Manual Setting • Soft Start Siren • Manual Wail • Control Pad with 8 x lighting control 	<ul style="list-style-type: none"> • Phaser • Air Horn

Sirens & Intercoms

151mm
64mm

157mm

SA500-12

66mm
53mm
95mm

Microphone

152mm
48mm

146mm

SS670

151mm
61mm

150mm
122mm

SS700-24

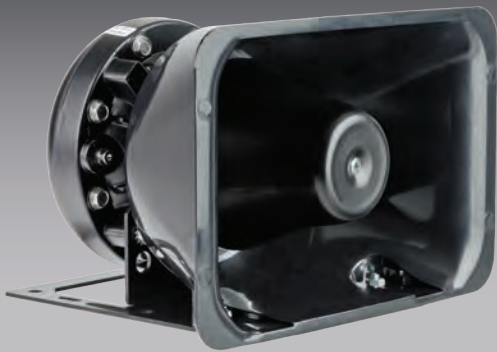
ECU

Siren Amplifier & PA – 100 Watt

Part No.	Voltage	Features		Tones	
SA500-12	12	• Public Address	• Park Kill	• Wail	• Phaser
SS670	12	• Radio Re-Broadcast	• Horn Ring Cycler	• Yelp	• Air Horn
SS700-24	24	• Auxiliary Input	• Manual & Alert Settings		



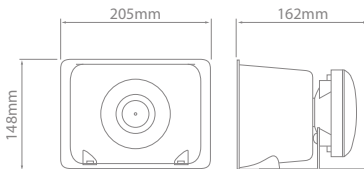
Siren Speaker



- Universal mount polycarbonate siren speaker.
- Suitable for use with all IONNIC amplifiers.

Body :
Weight :

Polycarbonate
3.0kg

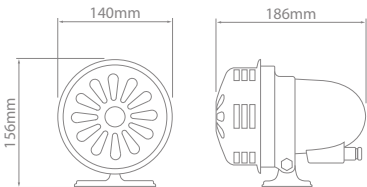


Siren Speaker – Polycarbonate

Part No.	Watts	Impedance (Ohm)
TC100H	100	11

- Motor driven.
- Polycarbonate construction.
- Double insulated.
- 12 & 24V models.

Duty Cycle : Continuous
Sound Output : 114dB @ 1m
Frequency : 820Hz
Body : Polycarbonate
Weight : 1.5kg
Approvals : CE, C-Tick
Operating Temperature : -40°C to 40°C
Ingress Protection : IP43



Motorised Siren

Part No.	Voltage	Current Rating (A)
SIR4501210	12	9.5
SIR4502410	24	5.0



Sirens & Intercoms



BCVI-2



- Voice activated or push to talk models.
- 3 way communication using Duplex kit + Slave.
- Solid state, spark free electronics.
- Environmentally sealed – IP68.
- Epoxy filled for maximum vibration resistance.
- Can be steam & pressure cleaned.
- Multi-voltage.
- 2 year warranty.

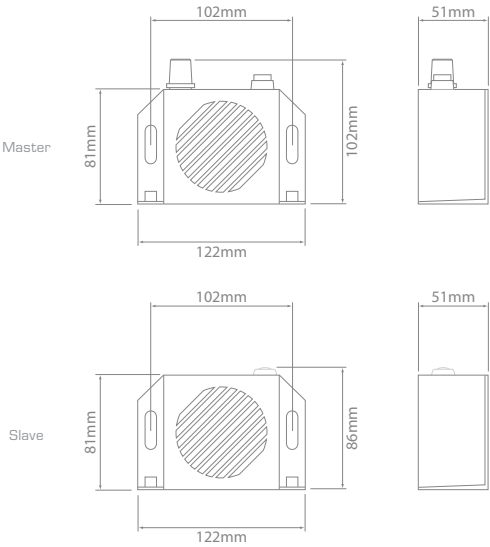
Voltage :	12–24V
Current Draw :	0.5A
Volume Control :	80–95dB(A)
Body :	AES
Harness :	25m
Weight :	Master 0.3kg
	Slave 0.27kg
EMC :	CE, ECE R10, FCC & 'e' marked
Operating Temperature :	-40°C to 85°C
Ingress Protection :	IP68



BCVI



BCVI-2



BACKCHAT Intercom

Part No.	Description
BCVI	Simplex Kit – Master Unit with Voice Activated Slave Unit
BCVI-2	Duplex Kit – Master Unit with Push-to-talk Slave Unit
BCVI-SLAVE	Slave Unit – Voice Activated
BCVI-2-SLAVE	Slave Unit – Push to Talk



Laser Engraving

Permanently engrave your company's logo on to almost any surface.

Laser engraving is a process where the laser beam physically removes the surface of the material to expose a cavity that reveals an image at eye level.

- Ideal for applications where the mark must be permanent e.g. anti-counterfeiting, serialisation.
- Mark any shape including text and barcodes.
- Incredible precision.
- Most metals and many non-metal materials.

Applications:



Date Codes
& Batch
Codes



Promotional
Symbols/
Icons



Primary
GTIN
Barcodes



Two
Dimensional
Codes



ionnic Services



Engraving

- Large range of colour combinations including metallic finishes.
- Materials available for use with backlighting.
- UV stabilised for interior & exterior use.
- Optional adhesive back.
- Ideal for:
 - Safety signage
 - Control panels
 - Product tags
 - Name plates



ENG-STARTERISO
45 x 20mm

STARTER

ENG-STARTER
40 x 10mm

BATTERY

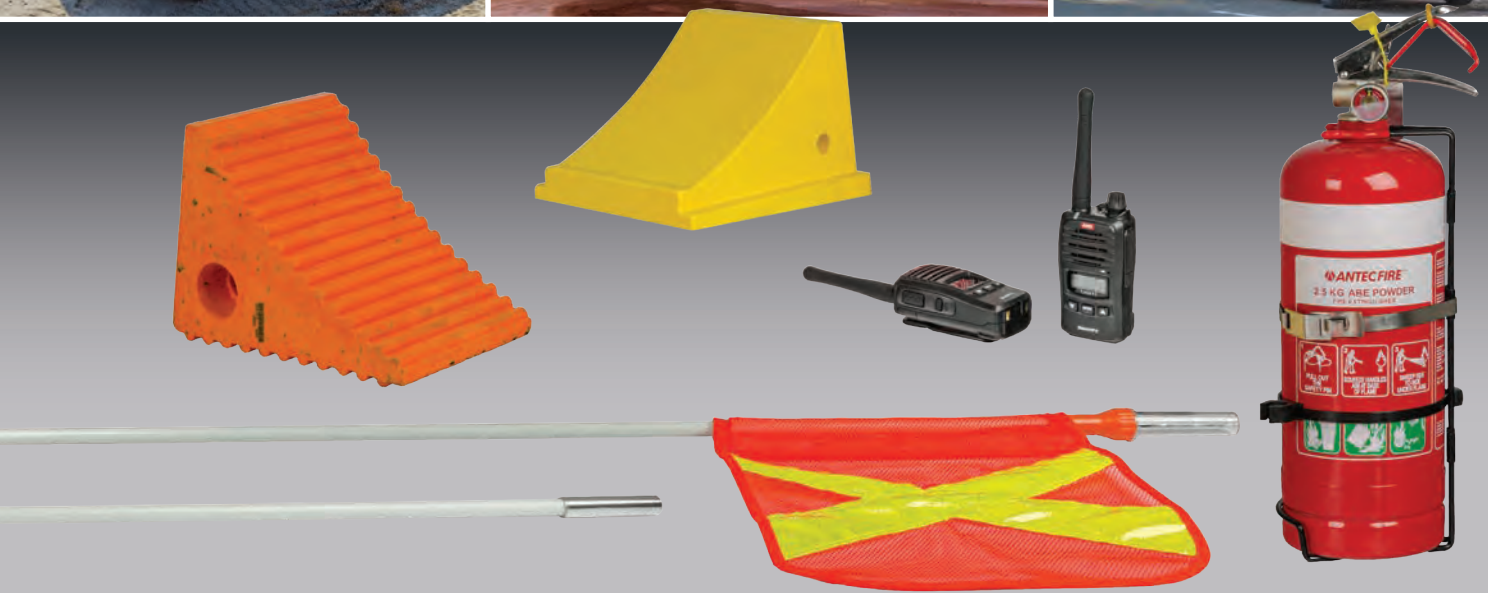
ENG-BATTERY
40 x 10mm

Custom Engraving

Custom engraving is available for the creation of control panels and name plates up to a maximum size of 500mm x 380mm.

Choose from a large range of colours with some materials suitable for use with backlighting. For further information ask your local reseller or enquire online at ionnic.com.





Mining Safety Accessories

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Reflective Flags	82
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Mining Safety Accessories

Wheel Chocks

NEW

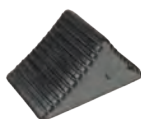


- Variety of sizes.
- Slip resistant.
- One-piece construction.
- Stainless steel holders.
- Rubber strap for increased security.

Wheel Chock : MSA-004 Polyurethane
Chock Holder : MSA-002 Rubber
Stainless Steel



MSA-001



MSA-004



MSA-002



STRAP480MM



MSA-003



MSA-111



MSA-113



MSA-113



MSA-112



MSA-114

Wheel Chocks **NEW**

Part No.	Description	Suits	Dimensions (mm)
MSA-001	Wheel chock, Orange	—	H160 x W140 x D225
MSA-004	Wheel chock, Black	—	H100 x W120 x D200
MSA-002	Wheel chock holder. Stainless steel	MSA-001, MSA-004	W300
STRAP480MM	Rubber strap	MSA-002	L480
MSA-003	Wheel chock holder. Stainless steel	MSA-001, MSA-004	W150
MSA-111	Wheel chock, Yellow	—	H150 x W200 x D210
MSA-113	Wheel chock holder. Stainless steel, includes rubber strap	MSA-111	W260
MSA-112	Wheel chock, Yellow	—	H200 x W220 x D340
MSA-114	Wheel chock holder. Stainless steel, includes rubber strap	MSA-112	W270

Mining Safety Accessories

- Folding mechanism for easy storage.
- Weighted bases for stability.
- Storage case included.
- Case holder supplied with rubber strap for extra security.

NEW

Reflective Warning Triangles

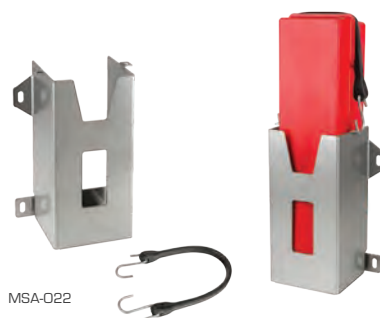


Case Holder :

Stainless Steel



MSA-021



MSA-022

Reflective Warning Triangles

Part No.

MSA-021

Description

Reflective warning triangle x 3. 440mm side length. Storage case

MSA-022

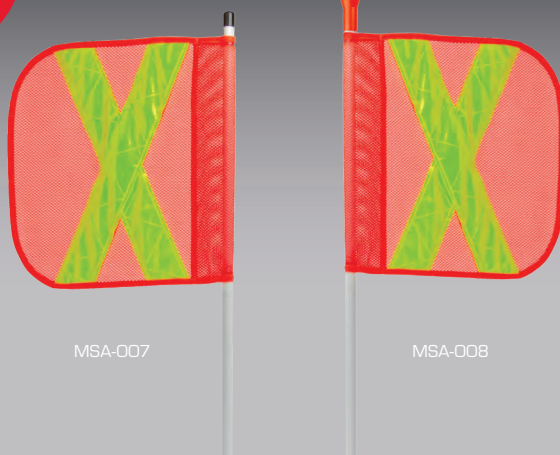
Triangle storage case holder. Stainless steel, Includes rubber strap



Mining Safety Accessories

Reflective Flags

NEW



MSA-007

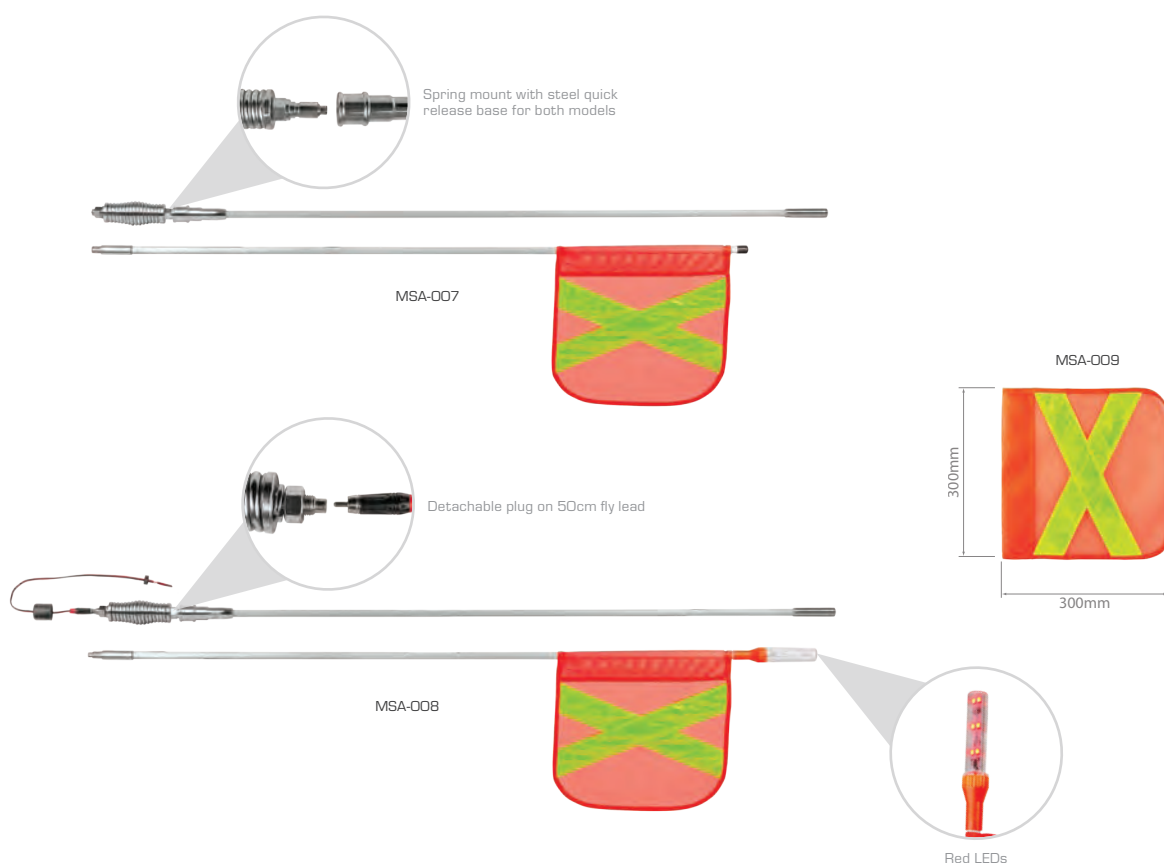
MSA-008

- Reflective flag available with LED warning light.
- Spring mount with steel quick release base.
- Detachable pole for easy storage.
- Made from sturdy and UV stabilised nylon.
- Available as flag only.

Voltage :
Material :

MSA-008
Flag
Pole
Base

12-24V
Nylon
Polycarbonate
Stainless Steel



Reflective Flags

NEW

Part No.

Description

MSA-007

2 piece, spring base. 2.5m total length

MSA-008

2 piece, spring base. 2.56m total length. LED illumination - Red. 12-24V

MSA-009

Flag only

Mining Safety Accessories

- 32 pieces first aid kit.
- TGA approved.
- Water resistant carry bag with handle.
- Separate compartments for easy access.
- Ideal for treating minor injuries in the field.

NEW



First Aid Kit

Approval : TGA, comply with AS 2675-1983
ISO13485



First Aid Kit NEW

Part No. Description
MSA-O46 Portable first aid kit. 32 piece, TGA approved, complies with AS 2675-1983

Kit contents:

- | | | |
|---|--|----------------------------|
| 3 x Gauze swabs – 7.5cm x 7.5cm | 2 x Low adherent dressing – 10cm x 10cm | 1 x Scissor – 10cm |
| 3 x Cleansing wipe | 1 x Wound dressing – #14 | 1 x Plastic tweezer – 12cm |
| 10 x Plastic plaster – 72 x 19mm | 1 x Conforming Bandage – 5cm x 4m | 1 x Notebook & pen |
| 1 x Disposable face shield | 1 x Conforming Bandage – 7.5cm x 4m | 1 x Amputated parts bags |
| 1 x Microporous Paper Tape – 2.5cm x 5m | 1 x Triangular bandage – 110 x 110 x 155cm | |
| 1 x Nitrile powder free gloves | 3 x Safety pin | |



Mining Safety Accessories

Fire Extinguishers

NEW



MSA-034

MSA-033



MSA-031

MSA-032

- Dry chemical powder fire extinguishers – ABE.
- Variety of sizes available.
- Models including protective UV bags.
- Heavy duty mounting brackets for mobile plant installation.
- Suitable for Class A, B and E applications.

Agent Type :
Approvals :

ABE Powder
AS/NZS 1841.1
AS/NZS 1841.5
AS/NZS 1850



MSA-030



MSA-039



MSA-040



MSA-033



MSA-031



MSA-035

Fire Extinguishers

NEW

Part No.	Size (kg)	Hose	Protective UV Bag	Standard Duty Mounting Bracket	Max. Range (m)	Discharge Time (sec.)
MSA-030	1.0	—	•	•	3	9
MSA-039	1.0	•	—	•	3	9
MSA-040	1.5	•	—	•	4	9
MSA-033	2.5	•	—	•	5	8
MSA-031	4.5	•	•	—	5	18
MSA-035	9.0	•	•	—	5	26

Mining Safety Accessories

ABE Fire Extinguisher Applications

Powder ABE Fire Extinguishers are suitable for the following fire types:

Class A



Paper, textiles, wood, most plastics and rubber

Class B

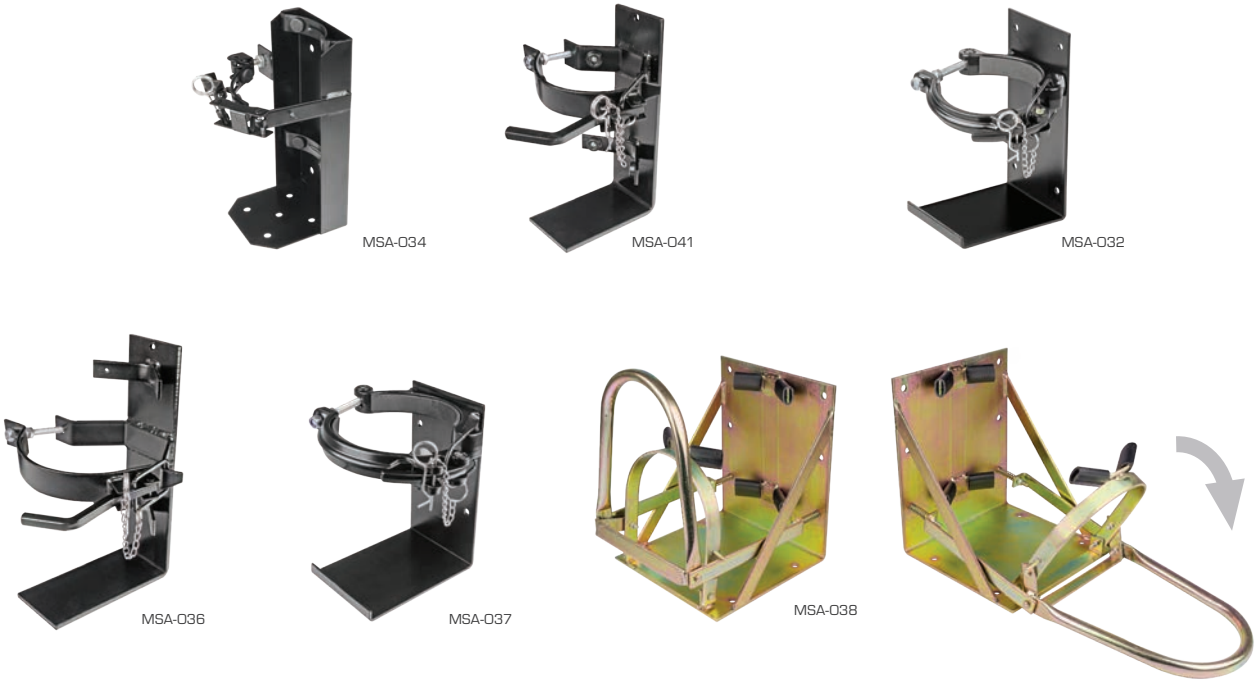


Flammable & combustible liquids

Class E



Electrically energized equipment



Fire Extinguisher Mounting Brackets NEW

Part No.	Style	Material	Suit
MSA-034	Medium Duty	Powder Coated Steel	MSA-033
MSA-041	Heavy Duty	Powder Coated Steel	MSA-033
MSA-032	Canon	Powder Coated Steel	MSA-031
MSA-036	Heavy Duty	Powder Coated Steel	MSA-035
MSA-037	Canon	Powder Coated Steel	MSA-035
MSA-038	Over-centre	Zinc-plated Steel	MSA-035



Mining Safety Accessories

UHF CB Radios

NEW



GME-XRS370C



- Comply to AS/NZS 4365 radio-communication standards.
- Digital signal processing.
- Over voltage & reverse polarity protected.
- XRS series features OLED display on speaker microphone.
- TX series incorporates LCD screen on receiver.
- GME-TX4610 environmentally sealed to IP67 on both receiver and microphone.
- GME-TX4610 can be fitted into standard DIN size slot.
- 5 year warranty.
- Most products made in Australia.

5Yrs

Operating Temperature :

-10°C to 60°C

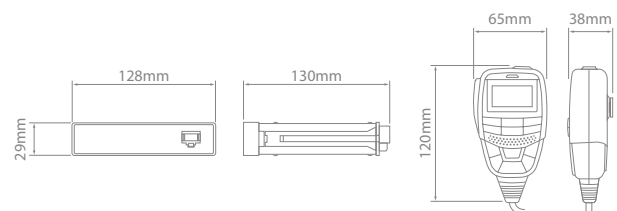
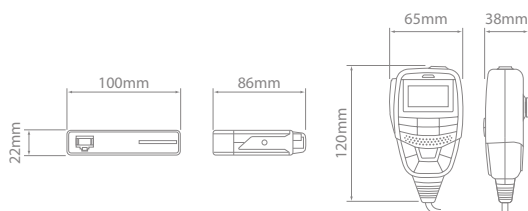
OLED display on speaker microphone



GME-XRS330C



GME-XRS370C



UHF CB Radios – Fixed Mount – XRS Series NEW

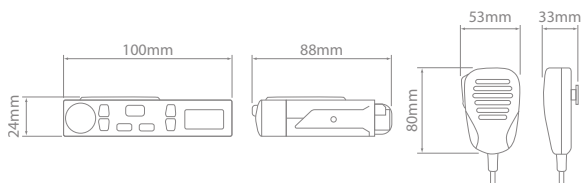
Part No.	Enclosure	Voltage	No. of Channels	Radio Frequency Output (W)	Bluetooth Connectivity	In-Built Speaker	Customisable Buttons	Memory Channel
GME-XRS330C	ABS	10–16	80	5	•	—	•	•
GME-XRS370C	Die-cast	10–16	80	5	•	•	•	•

Register via app for additional 1 year warranty, available on both IOS & Android.

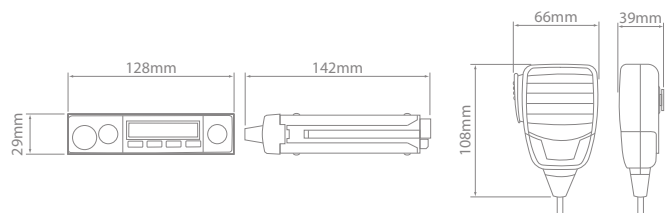
Mining Safety Accessories



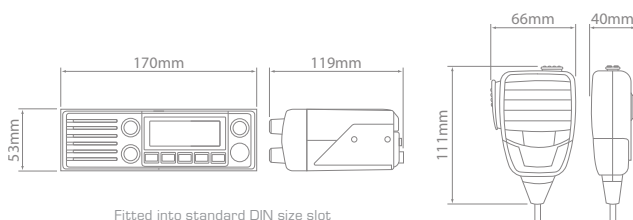
GME-TX3100



GME-TX3500S



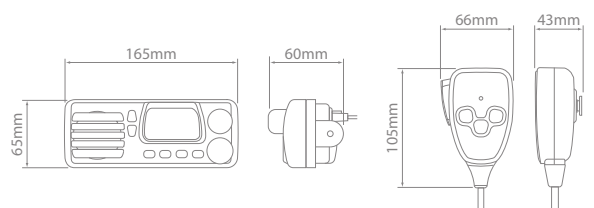
GME-TX4500S



Fitted into standard DIN size slot



GME-TX4610



UHF CB Radios – Fixed Mount – TX Series NEW

Part No.	Enclosure	Voltage	No. of Channels	Radio Frequency Output (W)	Bluetooth Connectivity	In-Built Speaker	Customisable Buttons	Memory Channel
GME-TX3100	ABS	10–15	80	5	—	•	—	—
GME-TX3500S	Die-cast	10–16	80	5	—	—	—	—
GME-TX4500S	Die-cast	10–16	80	5	—	•	—	—
GME-TX4610	ABS	10–15	80 + 19*	5	—	•	—	—

*Receiver only.

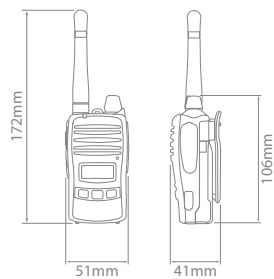


Mining Safety Accessories



UHF CB Radios – Fixed Mount – Kits NEW

Part No. GME-XRS330CTP	Kit Contents: 1x Radio & microphone (GME-XR330C) 1x Ground independent antenna – 64cm (GME-AE4018)	1x Microphone extension adapter with 1.8m cable 1x Elevated feed spring base with 4.5m cable
GME-TX3500SVP	1x Radio & microphone (GME-TX3500S) 1x Ground independent antenna – 15cm (GME-AE4002) 1x Ground independent antenna – 64cm (GME-AE4018) 1x Stainless steel spring base (GME-AS001)	1x PL259 Adapter (GME-PL259) 1x Elevated feed base with 4.5m cable (GME-ABLO02) 1x Stainless steel L mounting bracket (GME-MB407SS) 1x Stainless steel bullbar mounting bracket



UHF CB Radios – Handheld NEW

Part No.	Description	No. of Channels	Radio Frequency Output* (W)	Max. Battery Life (hr)
GME-TX677	Single unit	80	2 / 0.5	14
GME-TX677TP	Twin pack with dual battery charger	80	2 / 0.5	14
GME-TX677QP	Quad pack with chargers and protective case	80	2 / 0.5	14

* Radio frequency output switchable.

Mining Safety Accessories



UHF CB Radios – Accessories



Part No.	Description
GME-AE4002	Antenna – 2.1dBi. 150mm. 5/16" x 26 TPI thread. Stainless steel
GME-AE4013	Antenna – 2.1dBi, 280mm. 5/8" x 24 UNEF thread. Stainless steel
GME-CD51-68-70	Antenna – 4dBi. 360mm. 9mm thread. Copper
GME-AE4018	Antenna – 6.6dBi. 640mm. 5/16" x 26 thread. Fiberglass
GME-AE4705B	Antenna – 6.6dBi. 1200mm. FME connector. Heavy duty spring base. 4.5m lead. Fiberglass radome
GME-AE4705BTP	Twin antenna kit – 6.6 & 2.1dBi. 1200 & 465mm, FME connector. Heavy duty spring base. 4.5m lead
GME-AE5002	Antenna kit – On glass, 2.1dBi. 210mm Kit contents: 1 x antenna whip assembly, 1 x coupling box, 1 x RG174 cable with FME connector, 1 x PL259 plug
GME-AE5003	Antenna kit – On glass, 2.5dBi Kit contents: 1 x on glass antenna, 1 x 3m double shield coax cable, 1 x RG174 cable with FME connector, 1 x PL259 plug
GME-AB001	Antenna base – 5/16" TPI thread. Universal fit
GME-ABL001	Antenna base – 5/16" TPI thread. PL259 connector. 4.5m cable
GME-ABL002	Antenna base – elevated feed. 4.5m cable
GME-AS001	Antenna base – spring. Stainless steel. Suits GME-ABL002
GME-ABL005	Antenna base – fold down style. 5/8" UNEF thread. PL259 connector. 4.5m cable
GME-PL259	Plug – PL259 with reducer to suit RG58C/U cable
GME-MB403SS	Antenna mounting bracket – universal, stainless steel
GME-MB407SS	Antenna mounting bracket – bonnet/boot mount. Stainless steel
GME-MB411SS	Antenna mounting bracket – mirror mount. Stainless steel
GME-VC2S	Voltage converter – 18–32V input, 13.6V output. Reverse polarity & over temperature protected



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General Information

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