



ZoneSafe™ System

Transponder User Guide



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ZoneSafe™ System Installation & Operation Manual

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1 Introduction

ZoneSafe™ is a proximity warning system that produces an invisible detection zone around any machine or area it is fitted to. The system detects transponders worn by personnel or fitted to other objects that are within its proximity and provides an audible/visual warning.

ZoneSafe™ systems are supplied as audible and/or visual warning systems, which provide an aid to safety only. ZoneSafe™ should not be used to replace proper job site organisation, safeguards, operator training and the application of relevant vision standards that addresses safety and the safety of people on job sites.

2 How the System Works

ZoneSafe™ is based on proven radio frequency technology. The driver of the vehicle places an Authorized driver transponder in to the control unit. Completing this ensures the drivers transponder does not set off the detection alarm. If no Authorized Driver Transponder is placed in the Control Unit a constant alarm will sound.

The system produces a user configurable detection zone around a machine or area between 3m to 9m which interacts with transponders worn by personnel or other hazards. When a ZoneSafe™ transponder is within the proximity of, or enters the detection zone of a ZoneSafe™ enabled object, a visual and/or audible indication is provided to the machine operator.

The ZoneSafe™ system comprises a control unit with display, antenna units and transponders. Each installed system has its own unique identification code, as do each of the transponders used with the system. The Control Unit can optionally contain an LCD which can indicate the location of the detected transponder in the zone

The system's main control unit has a real time clock and built in memory for storing an audit trail of up to 7000 proximity detection events and system configuration settings. Event logs and system settings can be viewed for each control unit using the ZoneSafe™ software or ZoneSafe Android APP

ZoneSafe™ Manager software provides an easy to use interface for downloading, viewing, analysing and exporting event data.

NOTE: The ZoneSafe™ proximity warning system is supplied as an audible and/or visual alert system only. It is not a protective device, it does not initiate or perform safety related functions and it does not provide control to reduce risk but and audible/visual alert to the operator of the risk.

NOTE: Detection accuracy will depend on environmental and installation factors

3 Operation overview

3.1 Transponder

All ZoneSafe™ Transponders are worn by all personnel or fitted to other hazards. When a transponder enters a detection zone a visual and/or audible indication is provided to warn the machine operator.

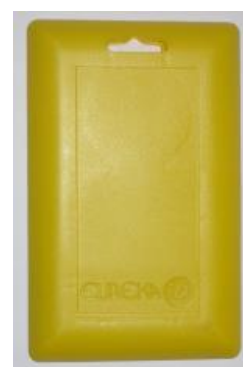
Each transponder is factory configured with a unique ID and can be used on any ZoneSafe™ enabled job site. Transponders within the proximity of a detection zone will be logged by the control unit. The data logged from the transponder includes its unique ID, date/time and battery status.



NOTE: It is essential that all personnel on the job site must wear a transponder.

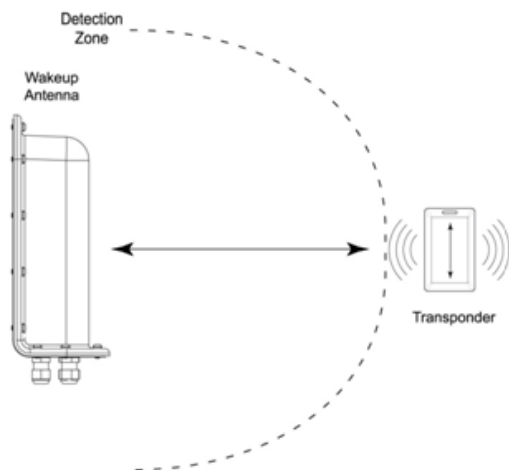
3.2 Driver Transponder

A ZoneSafe™ Driver Transponder is required for the driver of the vehicle. The Transponder is placed into the Control Unit and allows for correct system operation. When the vehicle is in operation and a Driver Transponder is not present the alarm will emit a constant tone. With correct installation the system will emit a constant tone if the transponder is left in the Control Unit when the ignition is switched off.



3.3 Correct wear

Transponders must be worn or attached vertically to ensure best detection range. Transponders can be worn using a lanyard, armband or integrated into PPE such as a high visibility vest. All personnel on the job site must wear an operational transponder.



4 Technical Information

ZoneSafe™ Transponder (all)		
Electrical	Voltage	3V (Lithium Coin Cell)
	Life	typ 2million reads or 2years
Mechanical	Dimension	85mm x 54mm x 7mm
	Material	ABS (Grey)
	Weight	22.5 grams
Environment	Ingress Protection	IP67
	Temperature	- 10°C to + 55°C
Radio	RX Frequency	125kHz
	TX Frequency	868-960MHz
	Modulation	GFSK
	Output Power	<10dBm
	Range	RX: typ 9m (Wakeup) TX: typ 50m (Transmit)
	Read Time	Less Than 250ms



5 WEEE Directive

The Waste Electrical and Electronic Equipment Directive (WEEE Directive) was introduced into UK law in January 2007 by the Waste Electronic and Electrical Equipment Regulations 2006.

This product shall not be treated as household waste. It must be treated in accordance with the Waste Electronic and Electrical Equipment Regulations 2006.

Avonwood Developments Limited is a WEEE registered producer WEE/EFO483SX.



6 FCC Compliance Information

Zonesafe Transponder
FCC ID: 2ACWNZS6277

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes or modifications to ZoneSafe™ systems not expressly approved by Avonwood Developments Limited may void the user's authority to operate the equipment.

7 Disclaimer

The ZoneSafe™ proximity warning systems manufactured by Avonwood Developments Limited are supplied as an audible and/or visual alert system only. The ZoneSafe™ proximity warning system is not a protective device, it does not initiate or perform safety related functions and it does not provide control to reduce risk but and audible/visual alert to the operator of the risk.

ZoneSafe™ should not be used to replace proper job site organisation, safeguards, operator training and the application of relevant vision standards that addresses safety and the safety of people on job

Fig 1: WEEE Symbol

sites.

Due to the nature of radio frequency, wireless communications and possible interference, data can never be guaranteed. Data can be corrupted, have errors or be totally lost. Avonwood Developments Limited ZoneSafe™ systems should not be used in situations where failure to transmit or receive data could result in damage of any kind to the user or any other party, including but not limited to personal injury, death or loss of property. Avonwood Developments Limited accepts no responsibility for damages of any kind resulting from errors in data transmitted or received using Avonwood's ZoneSafe™ systems, or for the failure of the Avonwood's ZoneSafe™ systems to transmit or receive such data.

Avonwood Developments Limited accepts no liability for any and all direct, indirect, special, general, incidental, consequential, punitive or exemplary damages including, but not limited to, loss of profits or revenue or anticipated profits or revenue arising out of the use or inability to use any Avonwood Developments Limited products.

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