THE FIRE DENYER®

USER MANUAL
&
INSTALLATION GUIDE

CONTENTS

CONTACT FIRE PREVENTORS LTD

Mail: Fire Preventors Ltd
PO Box 17322
Karori
Wellington 6147
New Zealand

Email: info@firepreventors.co.nz

Web Sites: www.firepreventors.co.nz
www.firedenyer.co.nz

Phone: Freephone: 0508 505 505
Telephone: (04) 476 6306
Mobile: 0272 787 758 (Operations)
0274 868 250 (Administration)

THE FIRE DENYER® CUSTOMER INFORMATION

Customer Name:	
Address:	
Installed By:	
Date of Installation:	

SYSTEM DETAILS

Installer to Complete

Component	Qty	Component	Qty
Fire Denyer Controller Serial No:	**1**	**Flashing Alerter(s)**	
Smoke Detector(s)		**Waking Vibrator(s)**	
Contactor(s)		**Door Bell(s)**	

CIRCUITS PROTECTED AT INSTALLATION

Installer to Complete
Cross Out Circuits Not Applicable, Add Other Circuits Protected

Circuit	Protected ✔	Circuit	Protected ✔
Electric Stove/Range		Laundry wall plugs (Clothes Dryer)	
Electric Wall Oven		Gas Stove/Range	
Electric Cook Top		Gas Hob	
Kitchen wall plugs		Gas Oven	

ELECTRICAL INSTALLER CONTACT DETAILS FOR SERVICE

Name	Contact Details
	Telephone: **Mobile:** **Email:**

GAS FITTER CONTACT DETAILS

Name	Contact Details
	Telephone: **Mobile:** **Email:**

THE FIRE DENYER® INSTALLATION CHECKLIST

The Fire Denyer® System Equipment	Installer Initials
All new equipment is connected and all covers are fitted	
End of line resistor fitted to last smoke detector	
Backup battery fitted to The Fire Denyer® Controller	
Mains electrical supply is connected	
Overall system is tested using Test button on The Fire Denyer® Controller	
Contactor(s) shuts off power to connected circuits	
Hush button is tested	
Reset button is tested	
Each smoke detectors sounds (use test magnet/ 'smoke')	
How the system works has been demonstrated to the owner	
List of equipment installed is completed – see Customer Information Page 3 (including The Fire Denyer® Controller Serial No)	
List Circuits Protected – See Customer Information Page 3	
Electrical Certificate of Compliance Completed	
Optional Components	
Each Flashing Alerter connected to Waking Vibrator has backup battery fitted	
Waking Vibrator(s) operates	
Each Flashing Alerter operates	
Each Door 'Bell' is tested	

IF THE FIRE DENYER® ACTIVATES

SMOKE ALARMS WILL SOUND AND FLASHING ALERTERS (IF FITTED) WILL FLASH RED, AND PROTECTED CIRCUITS WILL CUT OFF

CHECK FOR CAUSE OF ALARM

IF FLAMES ARE SEEN

EVACUATE ALL OCCUPANTS IMMEDIATELY
CALL 111 AND REPORT

IF FLAMES ARE NOT SEEN

CHECK FOR SOURCE OF SMOKE

The Fire Denyer® may have activated due to smoke and stopped the development of fire
OR
There may be a false alarm

IF THERE IS ANY DOUBT, EVACUATE AND REPORT

THE FIRE DENYER® CONTROLLER FUNCTIONS

To stop alarm noise and reset system

1. Press **"HUSH"** button. This will silence the smoke detectors for three minutes.

2. Check house for cause of smoke problem.

3. Clear smoke from room by opening windows/doors. If necessary clear smoke from smoke detectors by flapping a towel.

4. When all smoke is cleared press **"RESET"** button. This will turn the power back on to the protected circuits.

5. If smoke is still in room when **"RESET"** is pressed, after 30 seconds alarms will sound and the power will shut off again. In this case, repeat steps 1 – 4 above.

NOTE

It is possible to programme The Fire Denyer® Controller so that if the Hush and Reset sequence is repeated three times within a defined period (e.g.15 minutes), after the fourth time Hush is pressed, power will be restored to the protected circuits and The Fire Denyer® system will be deactivated for a defined period (e.g. four hours).

In this case, there will be no smoke detector protection during this period (e.g. four hours) and this facility is not generally recommended.

After the set period, the system will automatically Reset. If the fault is still present, alarms will sound and power to circuits will be cut off. Again after three Hush and Reset sequences, on the fourth Hush The Fire Denyer® system will be deactivated for the defined period.

At any stage while The Fire Denyer® system is deactivated, pressing the Reset button will reactivate the system.

THE FIRE DENYER® SYSTEM OVERVIEW

Benefits of The Fire Denyer®

Proven to Stop Fires Starting

About 40% of household fires start from unattended cooking, for example, a pot of oil on the stove overheats, smokes and then ignites. When the source of heat is cut as soon as smoke is detected, a devastating fire can be prevented. The Fire Denyer® cuts off the source of heat within seconds. Tests show the time between smoke and ignition is about seven minutes.

The Fire Denyer® System has the following additional benefits:

- Reliable
- Best full household smoke detector alarm warning system
- All smoke detectors are interconnected and sound simultaneously
- No batteries to replace – cost and convenience
- One, simple to operate, central controller
- Always 'on' – no need to remember to set when leaving the house
- Can be interfaced with security alarm and other fire alarm systems
- Saves your life
- Saves your family
- Saves your home

In a Nutshell
The Fire Denyer® stops 40% of fires starting and gives you the best possible warning of the other 60%

Sprinkler Systems

The Fire Denyer® system in conjunction with a sprinkler system gives the most complete protection available. The Fire Denyer® system is a highly effective first step which will prevent a significant number of sprinkler activations. A sprinkler system may assist on the rare occasions where the smoke alarm does not give enough time to deal with the source of the smoke before fire ignites.

What is The Fire Denyer®?

The Fire Denyer® is designated a 'Hazard Activated Power Isolator' (HAPI). Hard wired smoke detectors are connected to the Fire Denyer® Controller. When a smoke detector signals the Controller that smoke is detected, the Controller:

- signals all the smoke detectors to sound their alarms
- signals the contactor to switch off power to the designated circuits – primarily the cooking or stove circuit, but including all 'at risk' circuits.

Any individual circuits in the premises can be protected by The Fire Denyer®. Discuss your requirements with your installer. Changes can easily be made at any time; even after installation.

For installations that require a gas appliance to be shut off, it will be necessary to have a suitable valve installed by a registered gas fitter, and have that connected to an electrical circuit that is protected by The Fire Denyer®.

Standard Fit Components

- **The Fire Denyer® Controller** – the heart of the system, controlling the system's operation and providing Hush, Reset and Test functions. A backup battery maintains system operation for at least 72 hours in the event of a power failure.
- **Smoke Detectors –** photo-electric hard wired, 12v DC, each with a built-in sounder. These are standard fit and recommended. See page 13 for approval of other smoke detectors.
- **Contactor** – fitted to the house switchboard; a switch cutting power to selected circuits.

Optional Components

Additional components are available for special purpose installations.

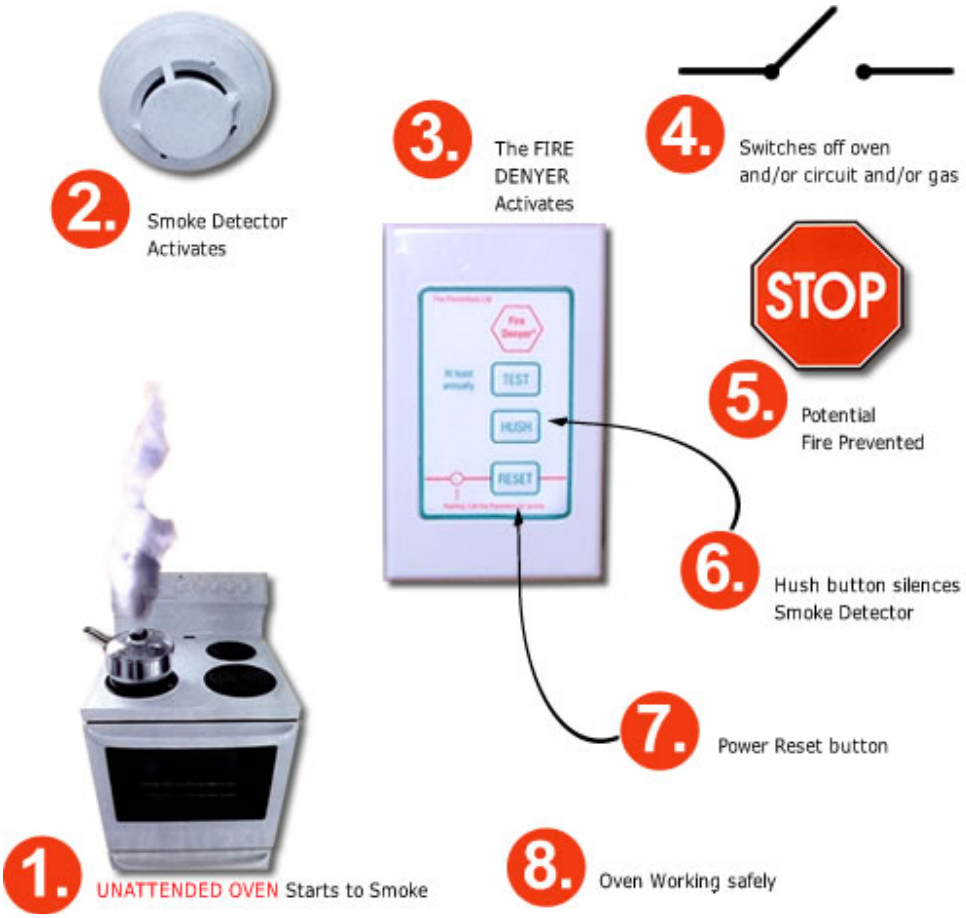
- **Heat Detectors** – can be fitted if required.
- **Flashing Alerters** – usually fitted to homes where one or more of the occupants is hard of hearing. Red lights flash in addition to the smoke detector alarms sounding when a smoke alarm is activated. Blue or green lights flash when the Door 'Bell' is pressed.
- **Waking Vibrator** – again, usually fitted to homes where one or more of the occupants is hard of hearing. A vibrating device designed to be placed under the pillow, mattress or couch of the hard of hearing person. The Waking Vibrator activates at the same time as the smoke detector sounders and the Flashing Alerters. The Waking Vibrator has two patterns of vibration; one when activated by smoke detectors, the other when activated by the door 'bell'.
- **Door 'Bell'** – designed for the hard of hearing, the door 'bell' sets the Flashing Alerters in operation with blue or green flashing lights. The door 'bell' also activates the Waking Vibrator. Note that there is no sound when the door 'bell' is pressed. A sounder can be fitted if required.
- **Call Point Switch** – the system can be connected to an external call point. For example, if the common area fire alarm of your apartment complex is activated, your Fire Denyer® Controller, if connected, will activate your full system.
- **Security Interface Module** – provides interfacing of The Fire Denyer® to any security alarm system.
- **Alarm Relay** – provides external alarm (for example a siren), signaling to people outside that The Fire Denyer® has been activated. This can be used as a 'panic button' by pressing Test. In addition, the alarm relay can be connected to additional internal sounders.

What Happens?

When any one of the smoke detectors detects smoke from any source, all smoke alarms activate and the power is cut to the protected circuits. Flashing Alerters, if fitted, activate as does the Waking Vibrator. Power remains cut to the protected circuits until the system is re-set.

See Page 9 for a diagrammatic representation of The Fire Denyer® function.

How it Works



False Alarm?

If the system has activated due to detecting smoke from burning toast for example, the Hush button silences the smoke detectors (and turns off the Flashing Alerters and Waking Vibrator if fitted). Power to protected circuits remains off until the Reset button is pressed.

Clear smoke from the area by opening windows or doors. If smoke is still present, the system will reactivate after a short time and will have to be hushed and reset again. See The Fire Denyer® Controller Functions on page 6 for more detail.

Controls

There are three simple control buttons on The Fire Denyer® Controller:

- **'Hush'.** This silences the alarms and turns off the Flashing Alerters and Waking Vibrator.
- **'Reset'.** This button resets the system, restoring power to protected circuits.
- **'Test'.** This button allows the owner to check that the system is connected and operating correctly. It cuts power to the protected circuits, sounds alarms (and activates Flashing Alerters and Waking Vibrator if fitted). To restore power to the circuits, press the Reset button.

THE FIRE DENYER® MAINTENANCE AND TESTING

Maintenance

All components of The Fire Denyer® are sealed units. The Fire Denyer® Controller, Flashing Alerters and Waking Vibrator do not need regular maintenance.

The recommended minimum requirement for smoke detector maintenance consists of an annual cleaning of dust from the detector head by using a vacuum cleaner.

Testing by the Owner

The owner can test the operation of the system at any time. Six monthly is recommended. The following simple test simulates smoke detector activation and cuts power to the protected circuits proving that the system is functioning.

- Press the Test button on the The Fire Denyer® Controller and hold it for two seconds. Check that each individual alarm is sounding and then press the Hush button.
- Check that the power is off to the protected circuits.
- Press the Reset button.
- Check that power is restored to the protected circuits.

Complete System Testing

The following tests provide a more complete testing of the system and its components. The owner can perform these tests or they can be carried out by arrangement with some competent person.

Test	Component Tested	Function Check
Test 1 **System Activation** Activate system by applying a test magnet(✯) or 'smoke'(≀) to a selected smoke detector Observe operation of components Hush then Reset system after test	**Selected Smoke Detector**	Each sounder functions
	The Fire Denyer® Controller	Red LED flashes
	Protected Circuits	Power to circuits cut off
Test 2 **Smoke Detector Function** In turn apply a test magnet(✯) or 'smoke'(≀) to each detector fitted Hush then Reset system after each smoke detector test	**Each Smoke Detector in turn**	Each sounder functions

✯ **How to Magnet Test**
Hold a strong magnet against the smoke detector plastic housing near the word 'Test' for at least five seconds. The detector will signal an alarm.

≀ **How to 'Smoke' Test**
Allow smoke from a cotton wick or from a test smoke aerosol to enter the detector sensing chamber. After about 10 seconds the detector will signal an alarm.

Battery Back-Up Test

The Fire Denyer® back-up battery is designed to operate fault free for at least seven years and could operate effectively for much longer. To test the back-up battery, follow the procedure in the box:

Test	Component Tested	Function Check
Battery Back-up Test Turn off power to the Fire Denyer® Controller and wait for green light on the Controller to go out (within 30 seconds)	**Backup Battery**	
Press Test button on the Controller for at least two seconds		Full system activates
When satisfied that the system has activated, press Hush		
Turn on power to the Fire Denyer® Controller		Fire Denyer® Controller green light comes on within 30 seconds
After green light on Controller comes on, press Reset		

The battery back-up test must be carried out by a competent person who is capable of turning off the power to the Fire Denyer® Controller. This could be achieved by turning off the mains power.

Optional Components Testing

If Flashing Alerters and Waking Vibrators are fitted, the correct operation of these components can be observed in conjunction with the Owner's Test or the Complete System Test. The tester should observe the correct function of components as follows:

- **Flashing Alerters.** Red lights flash at the same time as smoke detectors activate.
- **Waking Vibrator.** This vibrates at the same time as the smoke detectors activate.

Correct operation of the door 'bell' is tested at any time the 'bell' is pressed. The Flashing Alerter Green or Blue lights will flash and the Waking Vibrator will vibrate. Note that the vibration pattern is different to that which occurs when the system is smoke detector initiated.

THE FIRE DENYER® INSTALLATION GUIDE

The Fire Denyer® must be installed by a registered electrician

General Installation Points

- The Fire Denyer® Controller is usually best installed near the kitchen light switch or somewhere handy for convenient operation.
- A standard single gang flush box will house The Fire Denyer® Controller. The backup battery sits on a dwang near the flush box.
- Power supply to The Fire Denyer® can be fed from a light switch, but it is best connected to its own supply on the switchboard before RCD supply, maximum 16 amps.
- A smoke detector is usually installed just outside the kitchen area. Additional smoke detectors are installed in all other areas considered at risk, for example bedrooms, lounge and laundry. Heat detectors may also be connected if required and would normally be placed closer to the cooking appliance.
- The contactor requires two spaces on the switchboard. If there is no space available it may be housed adjacent to the switchboard in a suitable enclosure.
- Follow the wiring diagram for correct installation. Incorrect wiring may cause damage to the equipment.

The Fire Denyer® Controller

Connections are shown in the wiring diagram and see more detail in Technical Specifications, page 16. After all termination for the full system is complete, connect the backup battery to The Fire Denyer® Controller. The green light will activate for 30 seconds and then turn off. Mains power can now be turned on.

The Fire Denyer® Controller Indicator Lights

Light	Means
Green Light	Normal operation, mains power on
Green Light one minute pulse	Normal operation, no mains power
Red Light • Fast Flash	Smoke activation or Test button pressed. Continues fast flashing until hushed (slow flashing) and then reset (green)
• Slow Flash	System 'hushed'. Hush effective for 3 minutes

Smoke Detectors

12v smoke detectors supplied by Fire Preventors Ltd are installed in the areas to be protected. The smoke detectors are wired back to The Fire Denyer® Controller using 4-core 0.5mm security cable. A 4.7k End-of-Line Resistor is installed at the last smoke detector only. Smoke detectors are wired as shown in the wiring diagram.

The use of different smoke detectors may be approved; contact Fire Preventors Ltd for written approval and system compatibility checks.

Contactor

The power supply to protected circuits is interrupted by the contactor at the switchboard. Range, hob and kitchen power circuits are primarily protected. Clothes dryer circuits are highly recommended. Power and special function circuits in other areas can also be protected. Additional contactors, to cover more circuits, may be connected if required. The contactor is wired as shown in the wiring diagram.

Flashing Alerters

Flashing Alerters are wired back to The Fire Denyer® Controller using 4-core 0.5mm security cable. Flashing Alerters are wired as shown in the wiring diagram and see more detail in Technical Specifications, page 16.

Waking Vibrator

The Waking Vibrator is wired from a Flashing Alerter using twin Trurip 0.5mm cable, and must have a back-up battery. The back-up battery pack is installed at that Flashing Alerter.

Door 'Bell'

The door 'bell' is wired from the nearest Flashing Alerter using twin Trurip 0.5mm cable. If a sounder is fitted for the door 'bell', it is powered from a Flashing Alerter.

Installation Check List

After installation is complete, an examination of the system as a whole should be undertaken, and the tests and checks laid out in the Installation Check List on page 4 should be carried out by the installer, who should initial the Check List.

THE FIRE DENYER® TROUBLE SHOOTING

Experience gained over many installations of The Fire Denyer® has identified some questions that may arise at installation and answers to those questions. The table below addresses these potential problem areas and their solutions. If an installer runs into a difficulty not covered below, call Fire Preventors Ltd on 0508 505 505.

	FAQ	Possible Cause	Solution
A	The Fire Denyer® keeps activating	1. Smoke present 2. Smoke detector not fitted correctly to base 3. Damaged wiring to smoke detector circuit 4. End-of-line resistor not fitted or not correctly fitted to last smoke detector 5. Smoke detector in alarm mode due to contamination	1. Clear smoke from area 2. Ensure 'guidelines' on smoke detector base and head are matched up 3. Visual and continuity test of ALL wiring and correct 4. Rectify 5. Identify and clean or replace contaminated smoke detector (see B below for procedure to identify 'faulty' smoke detector)
B	How to identify the particular smoke detector which is causing the activation	Contamination or component fault. The 'Solution' identifies the faulty smoke detector	1. Hush system 2. Remove one smoke detector head from base 3. Short out between terminals 4 and 6 on the base using alligator clips 4. Reset system: • If alarm sounds again, then that smoke detector is OK Refit that smoke detector to its base. Go back to Step 1 and repeat the process on the next smoke detector in the system and continue this process until the alarm does not sound (see next bullet point) • If the alarm does not sound, that smoke detector is the one causing the alarm. Fix it (see A above) or replace it
C	No power to designated circuits	1. Incorrect wiring or termination 2. Faulty contactor 3. Blown fuse in Fire Denyer® Controller 4. Blown circuit breaker 5. System has been activated	1. Visual and continuity test of ALL wiring and correct 2. Replace 3. Replace 4. Reset 5. Determine cause and reset

	FAQ	Possible Cause	Solution
D	Green light on The Fire Denyer® Controller flashes in 1 minute pulse	Mains power off	Reinstate power to The Fire Denyer® Controller
E	Red light on The Fire Denyer® Controller fast flashes	Smoke activation or Test button pressed	Continues fast flashing until hushed (slow flashing) and then reset (green).
F	Red light on The Fire Denyer® Controller slow flashes	System 'hushed'. Hush effective for 3 minutes	Reset system
G	Green light on smoke detector pulses every minute	Normal – self test function	No action
H	Red light on smoke detector on	Smoke detector in alarm mode	Investigate and reset system

THE FIRE DENYER® TECHNICAL SPECIFICATIONS

The Fire Denyer® Controller

- Single flush-box mounting; standard light switch size, featuring:
  3 buttons: Test, Hush, Reset
  1 indicator LED, red/green: operation status indicator
  Normal = green
  Tripped = red fast flashing
- Splash-proof when mounted on a flat wall surface
- 90 – 245 volt AC, 50hz or 60 hz, mains supply
- Power consumption typically 2 to 3 watts (including contactor)
- Ni-Mh rechargeable backup battery located behind The Fire Denyer® Controller
  Recharged when mains power on
  Battery life typically 5 to 7 years
  Contact Fire Preventors Ltd for replacement
- One optically-isolated input for safe connection to third party systems (e.g. fire or security alarm panels)
  Link selectable, 2-5 VDC or 5 – 30 VDC (default = 5-30V)
  Isolation voltage exceeds 2KV
- One optically-isolated output for safe connection to third party systems (e.g. fire or security alarm panels)
  Link selectable, full isolation or referenced to common (default = isolated)
  Rating: low current (50mA), high voltage (100V DC). Solid state output
- Contactor supplied within NZ and Australia = 230/240 volt AC 50 Hz 4-pole 25 amp DIN mounted. Standard contactor is two ways wide (36mm) on DIN rail
- Contactor driver output = triac switched phase (230V AC: 50 watts maximum)
- Smoke detector + 12 V nom. 4 –wire, photoelectric with internal sounder
  Monitored line; The Fire Denyer® detects wiring faults for fail-safe operation
  Each smoke detector has a loud internal audible alarm
  Additional smoke detectors must be supplied (or approved in writing) by Fire Preventors Ltd
- Heat detectors must be supplied (or approved in writing) by Fire Preventors Ltd
- No user serviceable parts inside

Flashing Alerter

- The Flashing Alerter (FA) is a dual mode strobe indicator
  Red flashing indicates a fire alarm
  Green or Blue flashing indicates a door 'bell' activation
- The red flashing occurs whenever smoke has been detected
  The green or blue flashing is initiated by the door bell and will stop flashing after 45 seconds.
- Multiple FAs can be connected to The Fire Denyer®
- The FA is wired back to The Fire Denyer® Controller using 4-core 0.5mm security cable and is wired as shown in the wiring diagram
- The FA can also drive a 12V DC Waking Vibrator (WV)
  The wiring between the FA and WV is typically 0.5mm twin Trurip
  The FA that is driving the WV must have a battery connected to it due to the heavy load applied by the WV
- Only supplied or approved batteries may be used
  Care must be taken not to damage the battery or battery lead
  The battery connector is polarised and must not be modified or extended

- The FA may be wall or ceiling mounted
  Wall mounting typically within 500mm of the ceiling, mounted vertically
  Position the FA so that it will be most visible by the occupants during normal activities
  The visibility of the FA will depend on ambient light, colour scheme and reflective surfaces
  Direct line of sight is generally not required but is desirable
- Connections - Functions:
  The FA has 2 connectors on it, battery and wiring connector
  The battery connector is polarised and must not be modified or extended
  The 8-way plug-in screw terminal block provides all wiring connections:
  1 = +V +ve power supply from The Fire Denyer® Controller, typically 12 to 14 volts
  2 = -V -ve power supply common from The Fire Denyer® Controller
  3 = A main control input from The Fire Denyer® Controller
  4 = B aux connection (reserved)
  5 = S+ BS +v power (always live - not switched)
  6 = S- BS -ve power (switched to common to activate BS)
  7 = D+ Door 'Bell' push button input (switch to D-)
  8 = D- Door 'Bell' push button input (-V)
- The door 'bell' can be connected to any of the FAs.

Smoke Detector

The specifications for the smoke detector supplied by Fire Preventors Ltd at the date of publication are shown below

- 4-wire, 12/24VDC
- Maximum permissible current 85mA
- Alarm sound 85 dB at 3 m

Important Note
If it is intended to use a different smoke detector in the system contact Fire Preventors Ltd for written approval and system compatibility checks.

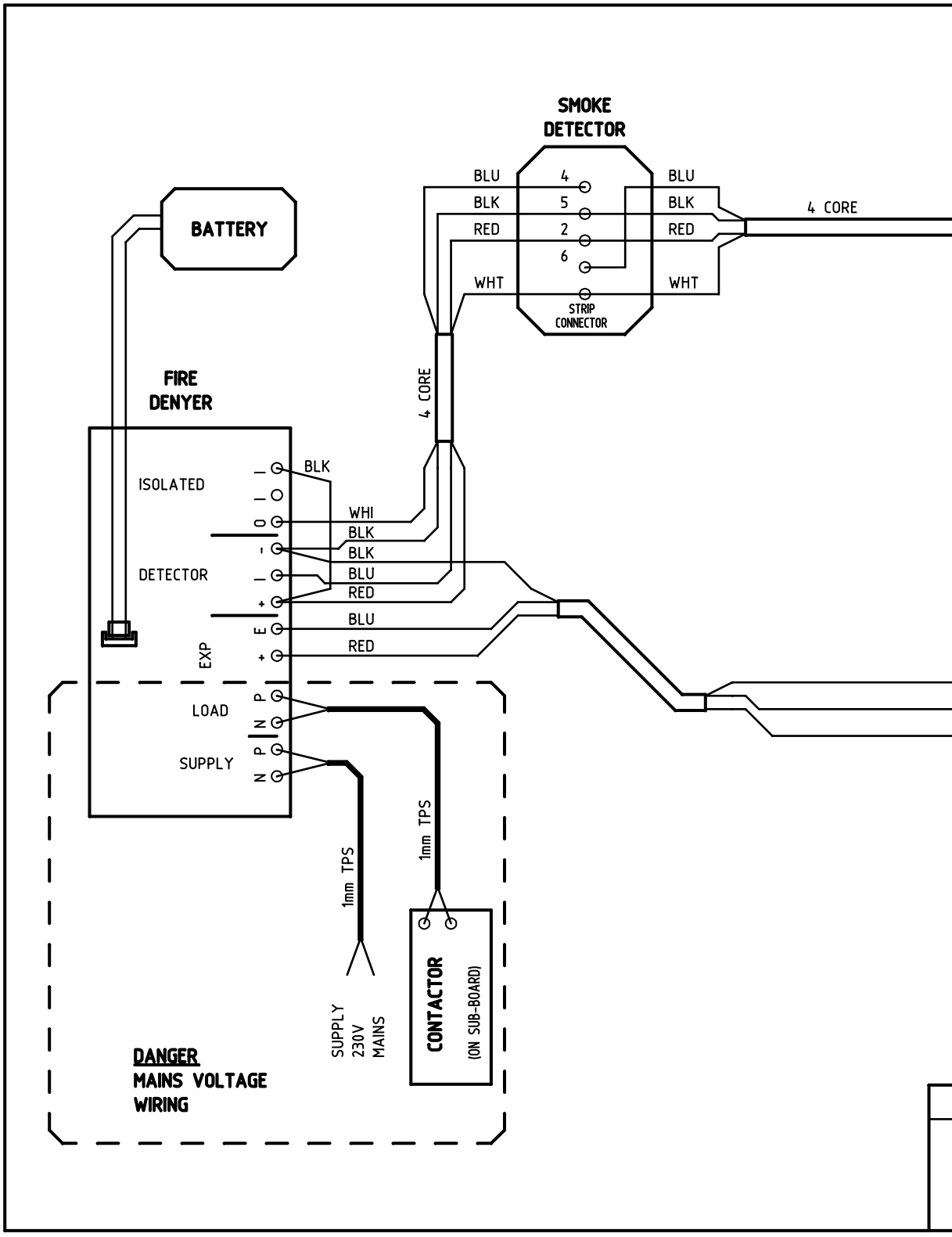
The Fire Denyer® Controller Compliance

Tested and passed AS/NZCSIPR14.1 2003
Tested and passed AS/NZS 3100:2002
Supplier Code Number Z1120

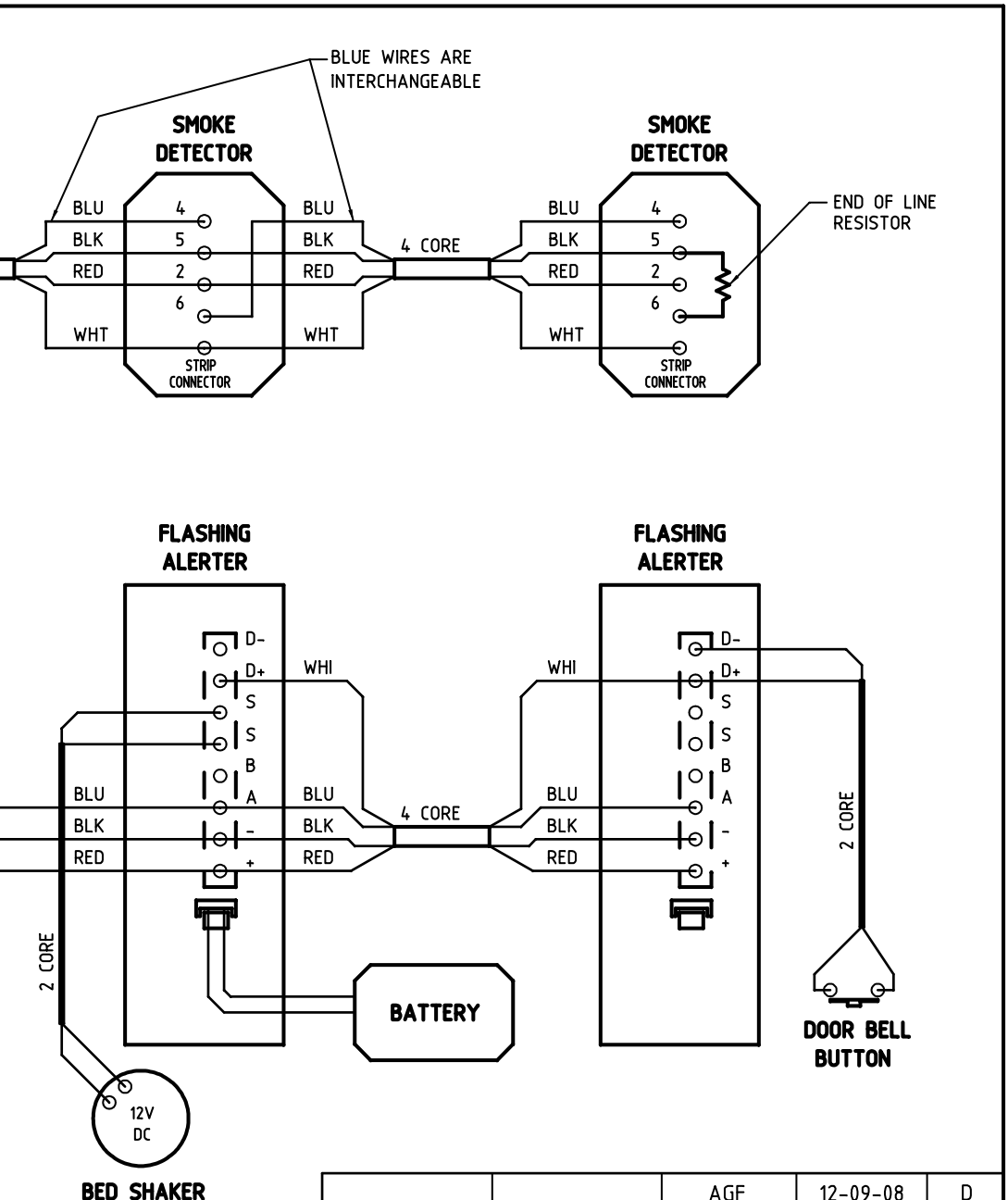
The Fire Denyer® Controller Patents

New Zealand – Patent No. 517688

Australia – Patent No. 2003200895



THE FIRE DENYER® SYSTEM WIRING DIAGRAM



		AGF	12-09-08	D
		AGF	29-08-08	C
APPROVED	CHECKED	DRAWN	DATE	ISSUE

FIRE PREVENTORS LTD

SCALE NTS

DRG NO: FPL 2W2 .

SHT 1 OF 1

THE FIRE DENYER® GUARANTEES

Fire Preventors Ltd is so confident in its product that, in addition to the normal protections available under the Consumer Guarantees Act 1993, the following additional guarantees are given:

The Fire Denyer® Controller
The Fire Denyer® Controller is guaranteed for a period of 10 years from the date of installation provided that:

- The installation was carried out by a duly authorised electrician
- The Customer Information and Installation Checklists contained in The Fire Denyer® User Manual & Installation Guide were fully completed at the time of installation
- The completed User Manual & Installation Guide is produced at the time of any claim

The Fire Denyer® Flashing Alerter
The Fire Denyer® Flashing Alerter is guaranteed for a period of 10 years from the date of installation provided that:

- The installation was carried out by a duly authorised electrician
- The Customer Information and Installation Checklists contained in The Fire Denyer® User Manual & Installation Guide were fully completed at the time of installation
- The completed User Manual & Installation Guide is produced at the time of any claim

All Other Installed Components
All other installed components are guaranteed for a period of two years (except for the Waking Vibrator which is guaranteed for a period of six months) from the date of installation provided that:

- The installation was carried out by a duly authorised electrician
- The Customer Information and Installation Checklists contained in The Fire Denyer® User Manual & Installation Guide were fully completed at the time of installation
- The completed User Manual & Installation Guide is produced at the time of any claim

This guarantee excludes any defect or injury caused by or resulting from misuse, abuse, neglect, accidental damage, improper voltage, vermin infestation or any alteration to the installation which affects the reliability or performance of the installation, not attributable to faulty manufacture

This guarantee does not extend to the wiring connecting components of the installed Fire Denyer® system

In the event of a claim you should in the first instance contact the installer whose details may be found in the Customer Information section of the User Manual & Installation Guide

In a Nutshell

We promise that if it is our fault, we will fix or replace it for free. If it is not our fault, we will give you a price to fix or replace it.