



Memco Panachrome⁺ Universal Controller

Installation Guide

Ref No. G851 855ML GB Version 1

Note: Before installing make sure the units are compatible to ensure reliable and trouble-free operation:

The Panachrome⁺ Controller G3851 is designed to operate with both Panachrome⁺ 2D Detectors [G2510 & G2540] and Panachrome⁺ 3D detectors [G3510 & G3540] - check you have the correct items.

1. Connections

Covers

To access the connections on the Controller it is necessary to remove the end covers protecting the terminals.

The Right Hand Cover conceals the terminals for connecting the external speaker and detector sockets. The Left Hand Cover is for the power, relays and external door signals (see Figs 1 and 2).

2. Installation

1. Secure the Panachrome⁺ Controller in a suitable position on top of car to avoid damage.
2. Connect the Controller with the correct supply voltage and Inputs (see Fig 3 below)
3. Once the detectors are installed (see detector installation guide) it is important to ensure that the detector cables & travelling cables (015 455) are secured to the door correctly, and that the travelling cables are routed to the Controller correctly.
4. Connect the Transmit (TX) and Receive (RX) leads into the Controller sockets (see Fig 4). Note: either socket can be used as the intelligent software will recognise which detector is plugged in.
5. On completion, carefully open and shut the doors by hand to check the travelling cable (015 455) has a smooth free movement and is not liable to snag on anything during normal operation, otherwise there is a risk of cables being damaged by the lift doors or caught when the lift moves.
6. With correct operation the display will show the following for a short time:

Panachrome⁺ TX
5 RX 5

Note: the number following TX/RX is the number of PCBs in each detector.

If different, then please check all connections.

7. The Green and Red Indicators will be operated by software but, if required, external signalling can be used (see Table 1 and Fig 5).

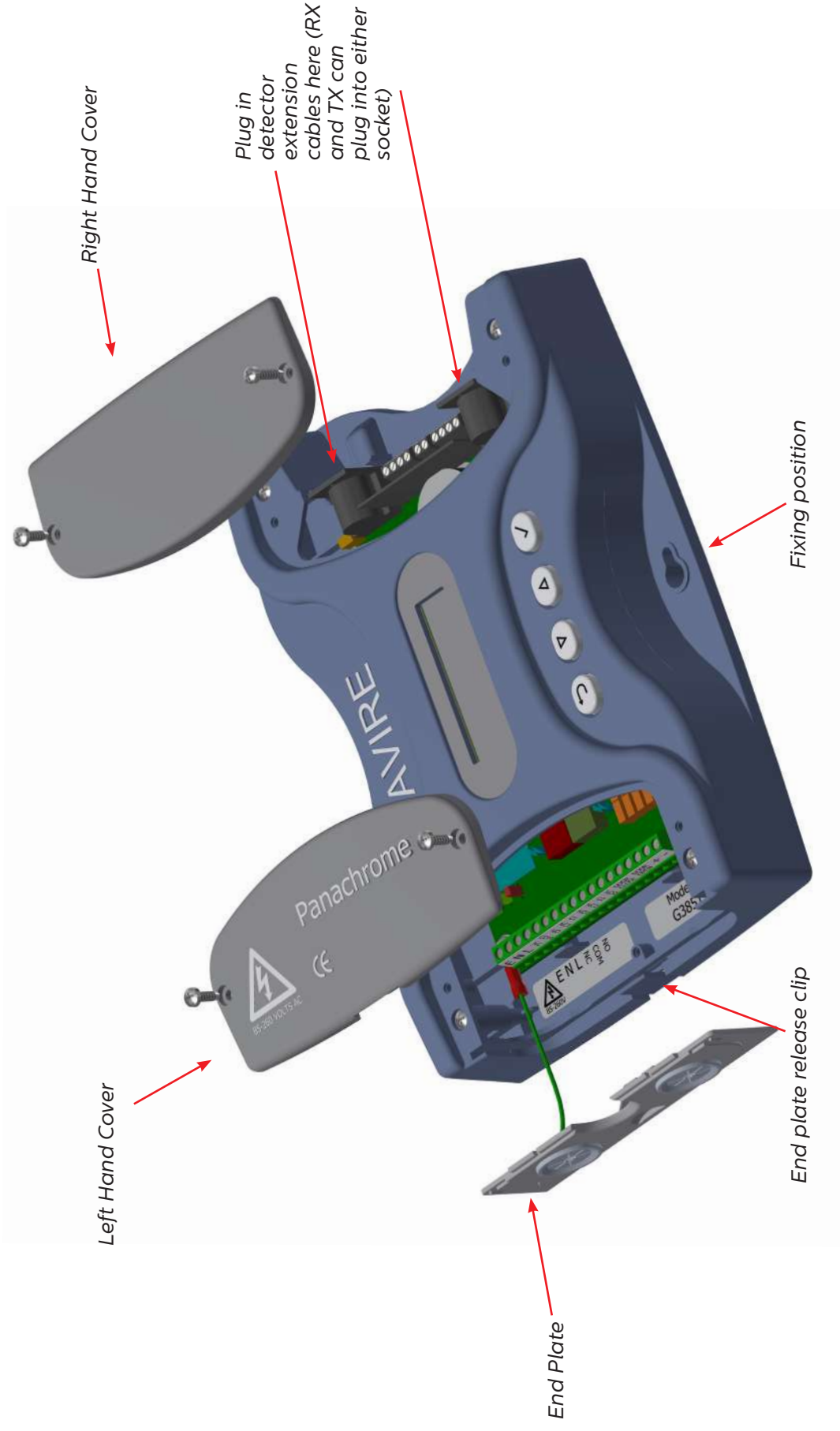


Fig 1: Connections

To remove the end covers simply lift upwards.

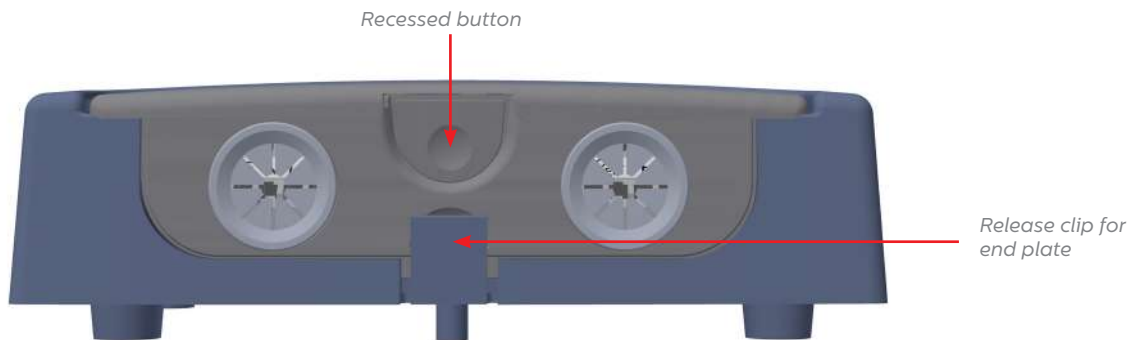


Fig 2: Connections

Power, relays and external door signals

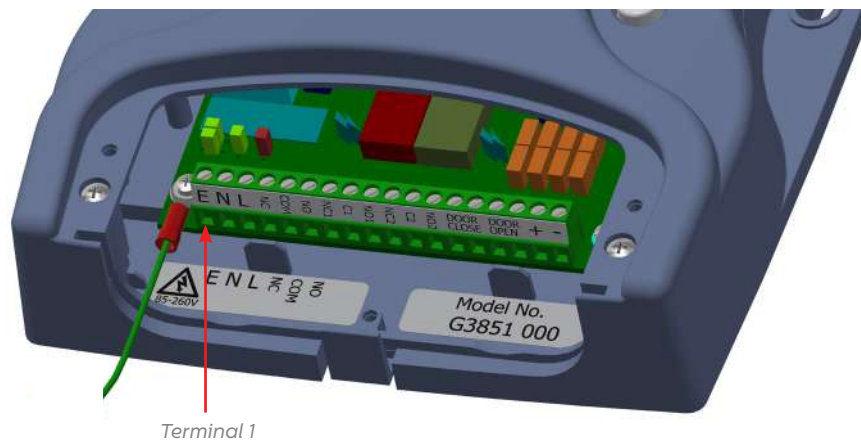


Fig 3: Installation

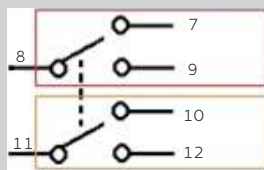
Terminal No.	Function	Comments
1	Earth	
2	Neutral	85 to 260VAC if powered via AC (for DC use 17 & 18)
3	Live	
4	N/C	
5	COM	Relay 1 for door operator 250VAC, 24VDC at 5A
6	N/O	
7	N/C 1	
8	COM 1	
9	N/O 1	
10	N/C 2	
11	COM 2	
12	N/O 2	
13	D/C	Door closing input (12 to 230 AC/DC). Note: not polarised
14	D/C	Door closing input (12 to 230 AC/DC). Note: not polarised
15	D/O	Door opening input (12 to 230 AC/DC). Note: not polarised
16	D/O	Door opening input (12 to 230 AC/DC). Note: not polarised
17	+	+15 to 48VDC if powered via DC
18	-	0V

Table 1

Detectors, External Speaker and Hub

The RX and TX can be plugged into either of the two 5-way DIN socket as the controller uses intelligent software to determine which one has been connected.



Fig 4: Installation

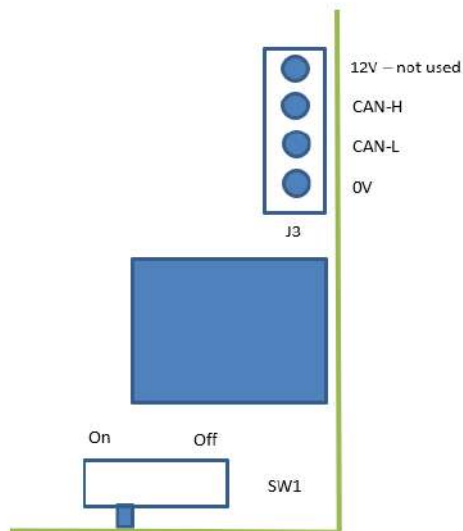
An optional external speaker can be connected to the centre 2-way terminal block.

Panachrome+ can connect to an Avire DCP using CANBus wiring

The Avire hub allows remote configuration of the system, and monitoring of fault events.

Wiring:

Connect the CAN bus to J3 on the controller



If this is the final product on the CAN bus set SW1 to On, otherwise set to Off.

3. External Signals Wiring Examples

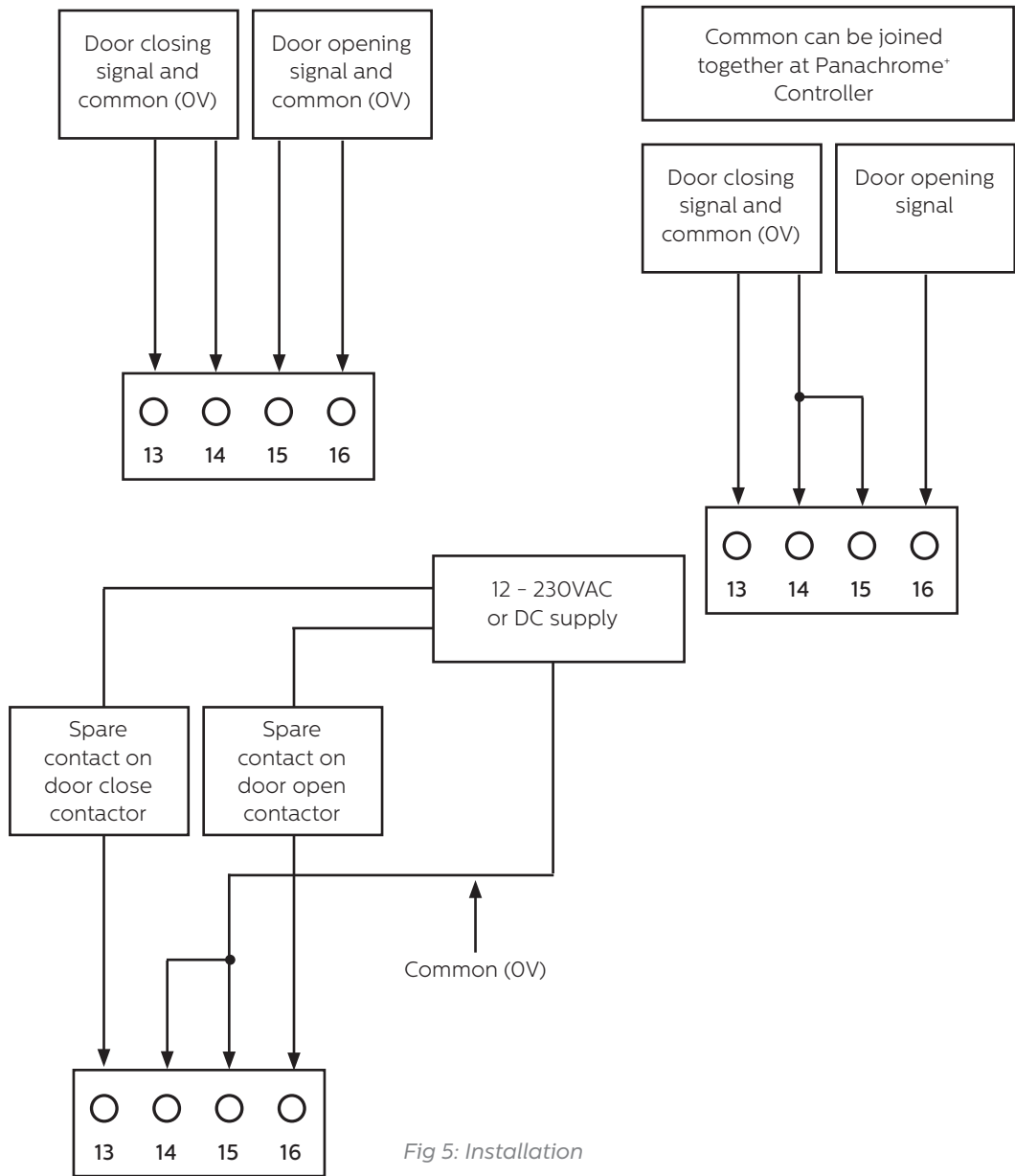


Fig 5: Installation

4. Menu Navigation

Panachrome® settings can be changed by using the 4-button keypad and screen.



Key	Function
↶	Go back/cancel
▼	Menu and value down
▲	Menu and value up
✓	Menu item select and confirm

To enter the settings menu first press ▼ .

Press ▼ and ▲ to go to the desired function then use ✓ to select. Some of the functions have multiple choices so use ▼ and ▲ to view. An active function is indicated by a * symbol.

Note: the bottom line on the display is the active function or menu item. The top row displays 'Panachrome®' when the first level is selected then changes when sub-menus are accessed.

For example:

First level

Second Level

Panachrome®
Visible Diodes

Visible Diodes ▼
Mode

There are 3 types of tones when navigating through the menus:

1. Single short high pitched – menu navigation
2. Single low pitch tone – incorrect selection
3. Three short tones – settings change confirmation

Profile Selection:

The Controller must be configured for the correct width. Incorrect choice may result in regular false triggers, particularly near to closed.

For initial installation, press the down key until menu indicates Quick Config, Select this, then down until the correct model is chosen. When selected, the Controller will emit a series of beeps. This also sets all configurations to factory settings.

To change just the profile setting, select Advanced, Profile Width, then 10mm or 43mm.

5. Menu Navigation

Language	English	Language selection	
	French		
	German		
	Italian		
	Spanish		
	Japanese		
Quick Config	G3510	Quick Configurator for Product Versions (2 = 2D, 3 = 3D) (10 = 10mm, 40 = 43mm)	
	G2510		
	G3540		
	G2540		
	G3550		
Visible Diodes	Mode	Normal	Green ON when the detectors are triggered and the doors are open/opening. Flashing red when the doors are closing and solid red when closed
		External Inp.	Enables control of the visible diodes by the open and close door signals. Choose whether this is activated by the rising or falling edge of an external signal (see Section 6 for details)
		Demo	Continual demo sequence of green and red diodes
		Trigger	Visible diodes will change from green to red when the detectors are triggered
		OFF	Turns off visible diodes
	Sides	Both ON	This controls which detector, either TX or RX have their visible diodes ON or OFF. The default is both TX and RX visible diodes ON
		TX only ON	
		RX only ON	
	Ext. Inp. Open	Rising Edge	Door open signal rising or falling edge signal (see Section 6 for details)
		Falling Edge	
	Ext. Inp. Close	Rising Edge	Door closing signal rising or falling edge signal (see Section 6 for details)
		Falling Edge	
	Green On Time		Sets green diodes on time (10 to 1000s)
	Red On Time		Sets red diodes on time (2 to 1000s). Note: flashing/solid combined on time

2D	Parallel Only	OFF	Panachrome ⁺ has 48 parallel beams and the option to activate or deactivate a further 186 diagonal beams. Choose to have parallel beams only ON or OFF	
		ON		
	Timeout/EN81-20	OFF	This enables/disables 2D timeout for up to 5 non-adjacent infra-red diodes	
		ON		
	Timeout Period		Beam timeout time (10 to 360s)	
	Cdn TMO Period		Canadian timeout time setting (not enabled)	
	Sleep	OFF	Turn sleep mode ON or OFF. Default OFF	
		ON		
	3D	Enable	OFF	Enable/disable 3D detection. Default OFF for 2D only detectors (G2510 or G2540) and has no effect
			ON	
Mode		ON at Closing	See Section 7 for more details	
		ON at 800mm	3D activates when the doors are closing	
		ON Always	3D activates when the doors are approx. 800mm apart	
		ON (10s)	3D always on with no 3D timeout	
		ON (20s)	3D always on with 10s 3D timeout	
		ON (20s)	3D always on with 20s 3D timeout	
Sensitivity		High	3D sensitivity settings. Choose according to installation. If false triggering on High then choose a lower sensitivity	
		Intermediate		
	Low			
Timeout Count		Counts the 3D triggers (2 to 10) and disables 3D once this count is reached. Note: resets with a 2D trigger or doors fully closed		
Second Relay	Copy Main	Relay 2 mimics main relay (relay 1)		
	EN81-20 Mode	Relay 2 activates when EN81-20 conditions are not met. This can be that a diode(s) has timed out which means the 50mm target detection is now not met, or a system fault has developed		
	Canadian	Canadian timeout. If a trigger is on for the timeout period (Cdn TMO) then the relay will activate		
	Disabled	Relay 2 disabled		
Audio	Beeper	OFF	Beeper off	
		Beep ON	Beeper active on a trigger	
		Beep Closing	Beeper active when the doors are closing and triggered	
	Speech	OFF	Speech output OFF	
		ON	Speech output ON	
	Speech Volume		Speech volume (0 to 9). Note: 0 volume is lowest setting and not equivalent to OFF	
	Speaker	Internal	Enable internal speaker.	
		External	Enable external and disable internal speaker	

Speech Language	English	Defaulted to the same as menu language
	French	
	German	
	Italian	
	Spanish	
	Japanese	
Key Sounds	OFF	Keypad sounds OFF/ON
	ON	
Door Block	Enabled	Turn door block ON/OFF
	OFF	
Voice Interval	ON	Turn door block OFF
	Low	Turn door block ON
	Medium	Interval between each door blocked announcement
Door Cycle Time	High	5 seconds
		15 seconds
		30 seconds
Voice Limit [X]		Time in seconds for a full door cycle from door open to door closed
Voice Limit []		Number of announcements when triggered
Alert Interval		Number of announcements when untriggered
Fault Interval		Time in minutes before door block alert sent to hub. Alert will be repeated at the same interval (default 5 mins)
Door Cycle	Enabled	Time in minutes before door block fault alert is sent via email. This will then repeat at the same interval (default 15 mins)
	OFF	Counts the number of full door cycles from last power ON
Hub Post Frequency	ON	When enabled the number of door cycles will be posted to the hub
	10	Don't post to the hub
	100	Post to the hub when the door counter reaches the hub post frequency
Advanced	1000	Number of door cycles at which the door cycles are sent to the hub
	Top Diode	Send every 10 cycles
	Bottom Diode	Send every 100 cycles
Profile	10mm	Send every 1000 cycles
	43mm	
Display	Triggers	Sets which diode is the top (first) diode in the beam pattern (1 to 6). This can be used to deactivate top diodes if they are triggered by the door mechanism. Note that using this may not be in compliance with EN81 requirements
	Status	Sets which diode is bottom (last) diode in the beam pattern (12 to 48). Note that using this may not be in compliance with EN81 requirements
	Averages	G2510/G3510
	Version	G2540/G3540
	Door Cycle	
Firmware Ver.		Displays the last type of trigger and the distance at which it occurred. If it is a 2D trigger it will display which board or boards the trigger occurred on
Detector FW		Coded display of configuration and status
Screen Timeout	OFF	Signal levels
	ON	Firmware version
		Displays number of door cycles since last power up
		Display the controller firmware version
		Detector firmware version
		Screen timeout turns off the screen backlight after 30 seconds
		Screen backlight will not turn off
		Screen backlight will turn off after 30 seconds

Hub	GSM Connected	Enable communication to DCP. (Must be connected via CAN for communication to be transmitted)
	OFF	Communication disabled
	ON	Communication enabled
	Shaft No.	Shaft number must match with shaft number on the Avire Hub. (default - 1)
	Node No.	Node in lift car. There can be up to 4 in each car (default - 0)

6. Visible Diodes Modes detailed

Ext. Inp. Open	<p>The door open and close signals can be either rising e.g. signal goes from 0V to +24VDC, or falling so +24VDC to 0V for example. The signals are connected to terminals 13 and 14 (Door Closing) and 14 and 15 (Door Opening). Note: the inputs are not polarised.</p> <p>There are two methods of using the external door inputs:</p> <ol style="list-style-type: none"> 1. Nudging: when the Panachrome[®] is used in Normal mode and the elevator controller provides a nudging facility, then the nudging control signal can be connected to the Panachrome[®] D/C (Door Closing) input. This will ensure that when the doors close under nudging control the Panachrome[®] visible diodes remain red, even if the detectors are triggered. 2. Open/Close signalling: this provides the fastest visible diode response to indicate door movement, but if the detectors are statically mounted then these inputs can be used to activate the red/green indications.
Ext. Inp. Close	

7. 3D Modes detailed

ON at Closing	3D proximity detection will be activated as the doors begin to close. The system will allow up to three consecutive triggers on the 3D (this can be changed by the Timeout Count setting up to 10 triggers). After this, the 3D will be turned OFF leaving only the 2D detection. If there is a 2D trigger then the Timeout Count is reset.
ON at 800mm	This mode of 3D operation is similar to ON at Closing but the 3D will only become active when the doors are closing and have reached a separation of approximately 800mm. This mode is usually for wider doors to restrict the range of 3D detection into the landing.
ON Always	The 3D detection will always be active without the 3D timeout timer (see following modes).
ON (10s)	In this mode the 3D detection is activated when the doors have reached their fully opened position (max 1.2m). As long as the 3D detection zone is clear the doors will be closed normally by the door operator. However, if someone is inside the 3D detection zone then the doors will be held open i.e. the main relay is de-energised and a timer is started. If the timer expires the doors are allowed to close with an intermittent beep sounding as a warning. This beep will occur regardless of the beeper setting. If the 3D zone becomes clear then the timer is reset and the main relay is re-energised allowing the doors to close. If there is a 2D trigger at any time, the timer will then be reset and the door operator relay is de-energised which allows the doors to re-open. The 3D timer is set at 10 seconds internally.
ON (20s)	This is the same as ON (10s) but the timer is set to 20 seconds.