



# Panachrome+ Universal Controller

## Installation Guide

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

The Panachrome+ Controller G3850 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 terminals are a quick-connect screwless type.

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).



To remove the end covers simply lift upwards.

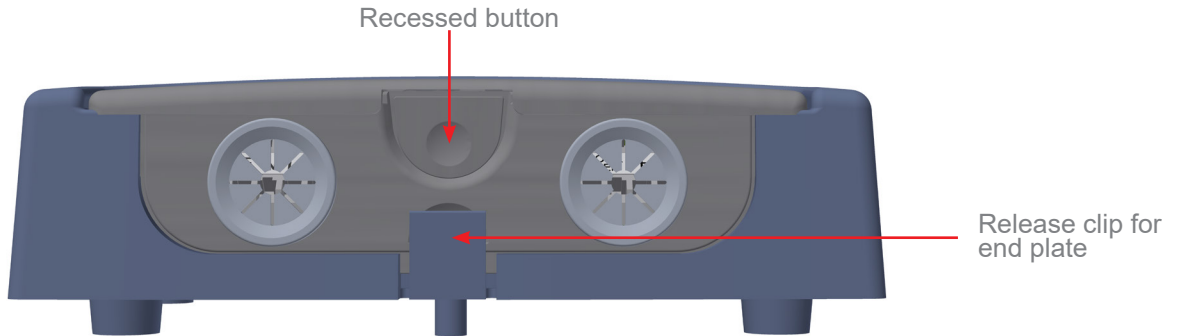


Fig 2: Connections

### Power, relays and external door signals

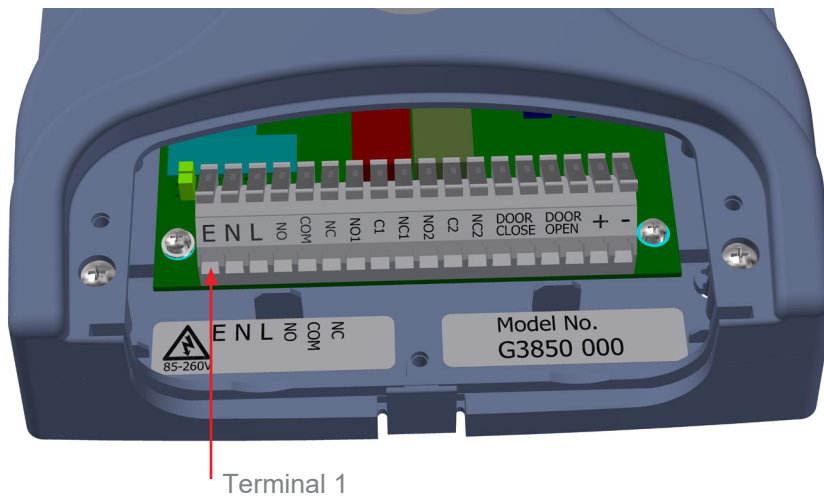


Fig 3: Installation

Terminal No.	Function	Comments
1	Earth	
2	Neutral	85 to 260vac if powered via ac (for dc use 17 & 18)
3	Live	
4	N/O	
5	COM	Relay 1 for door operator 250vac, 24vdc at 5A
6	N/C	
7	N/O 1	<p>Relay 2</p>
8	COM 1	
9	N/C 1	
10	N/O 2	
11	COM 2	
12	N/C 2	
13	D/C	Door closing input (12 to 230ac/dc). Note: not polarised
14	D/C	Door closing input (12 to 230ac/dc). Note: not polarised
15	D/O	Door Opening input (12 to 230ac/dc) Note: not polarized
16	D/O	Door Opening input (12 to 230ac/dc) Note: not polarized
17	+	+15 to 48vdc if powered via dc
18	-	0v

Table 1

## Detectors and External Speaker

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.

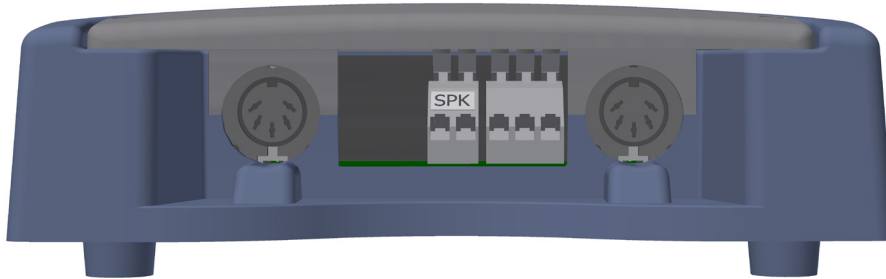


Fig 4: Installation

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

## 3. External Signals Wiring Examples

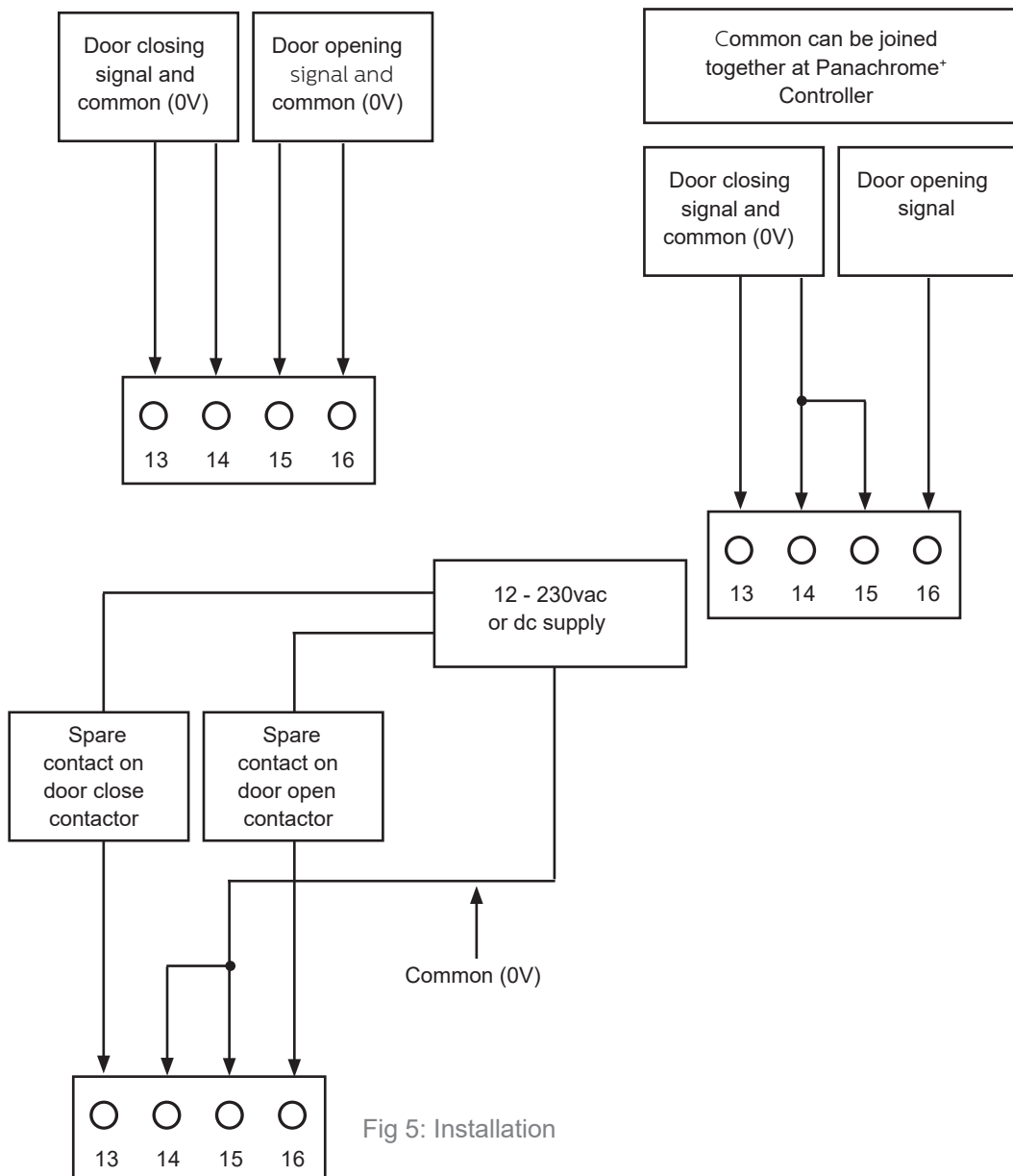


Fig 5: Installation

## 4. Menu Navigation

Panachrome<sup>+</sup> 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<sup>+</sup>' 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	
	Spanish	
	Japanese	
	Czech	
Quick Config	G3510	Quick Configurator for Product Versions  (2 = 2D, 3 = 3D) (10 = 10mm, 40 = 43mm)
	G2510	
	G3540	
	G2540	
Visible Diodes	Mode	<p>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.</p> <p>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).</p> <p>Continual demo sequence of green and red diodes.</p> <p>Visible diodes will change from green to red when the detectors are triggered.</p> <p>For internal use only.</p> <p>Turns off visible diodes.</p>
	Normal	
	External Inf.	
	Demo	
	Trigger	
	Test	
	Off	
	Sides	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.
	Both On	
	TX only ON	
	RX only ON	
	Ext. Inf. Open	Door open signal rising or falling edge signal (see Section 6 for details).
	Rising Edge	
	Falling Edge	
	Ext. Inf. Close	Door closing signal rising or falling edge signal (see Section 6 for details).
	Rising Edge	
	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	
		On	
	Timeout/EN81-20	Off	
		On	
	Timeout Period		
	Cdn TMO Period		
	Sleep	Off	
		On	
	3D	3D Enable	Off
			On
3D Mode		On at Closing	
		On at 800mm	
		On Always	
		On (10s)	
		On (20s)	
		Sensitivity	High
		Intermediate	
		Low	
Timeout Count			
Second Relay	Copy Main		
	EN81-20 Mode		
	Canadian		
	Disabled		
Audio	Beeper	Off	
		Beep On	
		Beep Closing	
	Speech	Off	
		On	
	Speech Volume		
	Speaker	Internal	
		External	

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.

This enables/disables 2D timeout for up to 5 non-adjacent infra-red diodes.  
Beam timeout time (10 to 360s)  
Canadian timeout time setting (not enabled)

Turn sleep mode ON or OFF. Default OFF.

Enable/disable 3D detection. Default OFF for 2D only detectors (G2510 or G2540) and has no effect.  
See Section 7 for more details  
3D activates when the doors are closing.  
3D activates when the doors are approx. 800mm apart.  
3D always on with no 3D timeout.  
3D always on with 10s 3D timeout.  
3D always on with 20s 3D timeout.

3D sensitivity settings. Choose according to installation. If false triggering on High then choose a lower sensitivity.  
Counts the 3D triggers (2 to 10) and disables 3D once this count is reached. Note: resets with a 2D trigger.

Relay 2 mimics main relay (relay 1).  
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 timeout. If a trigger is on for the timeout period (Cdn TMO) then the relay will activate.  
Relay 2 disabled.

Beeper off.  
Beeper active on a trigger.  
Beeper active when the doors are closing and triggered

Speech output off.  
Speech output on.  
Speech volume (0 to 9). Note: 0 volume is lowest setting and not equivalent to OFF.

Enable internal speaker.  
Enable external and disable internal speaker.

Speech Language	English
	French
	German
	Italian
	Spanish
	Japanese
Key Sounds	Off
	On
Advanced	
	Top Diode
	Bottom Diode
	Profile
	10mm
	43mm
Display	Status
	Averages
	Version
Access PIN	
Serial Number	
Firmware Ver.	
Detector FW	
	Tx
	Rx

Defaulted to the same as menu language.

Keypad sounds OFF/ON

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.

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.

G2510/G3510  
G2540/G3540

Coded display of configuration and status - see below

Signal levels

Firmware version

Future use

Serial number of controller

Displays the firmware version.

Detector Firmware Version

Firmware version for each board in detector

### Status Display:

The controller utilizes the LCD to show a coded status, so that common important settings can be observed at a glance. This is also helpful for Janus service so they can get the configuration without going through menus.

The left hand side of the display shows status, the right hand side configuration

The format is as follows:

Digit	Meaning
1	'2' indicates 2D trigger
2	'3' indicates 3D trigger
3	If untriggered, 1 -3 indicate approximate distance in cm (max 250cm)
4	'S' detectors are in energy saving mode
5	'T' 1 or more diodes timed out, 't' permanent trigger
6	'.' Separator between status and config
7	'v' if visible mode on
8	'N' visible normal, 'D' visible demo mode, 'E' visible external inputs, 'T' visible trigger



9	'1' 10mm profile, '4' 43mm profile
10	'3' if 3D enabled
11	'c' 3D active on closing, '8' 3d on at 800mm, 'a' 3D on always, 't' 3D 10s timeout, 'w' 2D 20s timeout
12	'H' for 3D high sensitivity, 'M' 3D intermediate sensitivity, 'L' 3D low sensitivity
13	'P' 48 beam mode
14	'S' sleep (energy saving mode) ON
15	'T' timeout ON

## 6. Visible Diodes Modes detailed

Ext. Inp. Open

Ext. Inp. Close

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.

There are two methods of using the external door inputs:

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.

## 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.