



# Memco Panachrome+ Universal Controller

## Installation Guide

Ref No. G851 855ML (V04) GB Version 3

**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
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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).

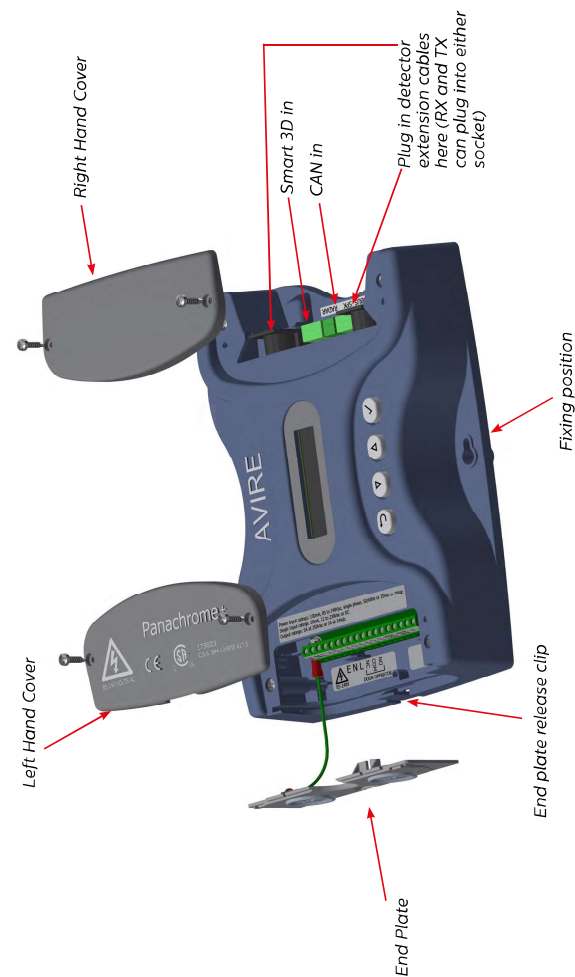


Fig 1: Connections

To remove the end covers simply lift upwards.

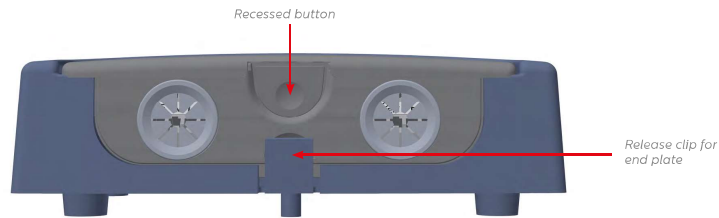


Fig 2: Connections

### Power, relays and external door signals

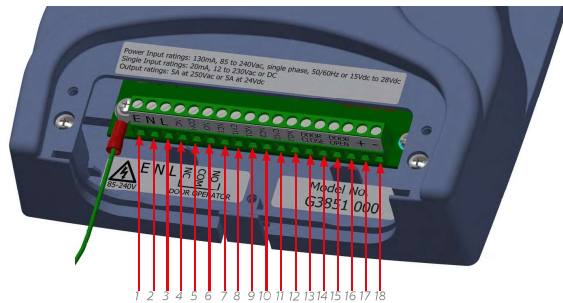


Fig 3: Installation

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	
15	D/O	Door opening input (12 to 230 AC/DC) Note: not polarised
16	D/O	
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.



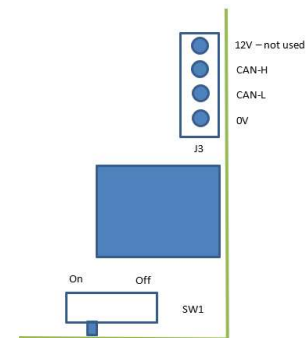
Fig 4: Installation

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

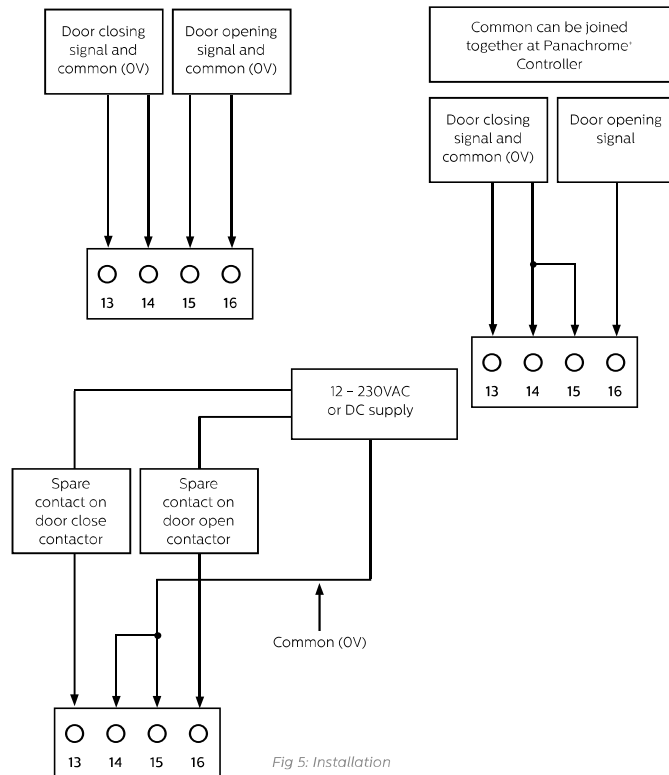


Fig 5: Installation

### 4. Menu Navigation

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



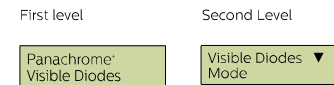
Key	Function
	Go back/cancel
	Menu and value down
	Menu and value up
	Menu item select and confirm

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:



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. On detector versions V1.010 automatic profile detection is enabled.

## 5. Menu Navigation

Language	English	Language selection
	French	
	German	
	Italian	
	Spanish	
Quick Config	Japanese	Quick Configurator for Product Versions  (2 = 2D, 3 = 3D) (10 = 10mm, 20 = 23mm, 40 = 43mm, 50 = 3in)
	G3510	
	G2510	
	G3540	
	G2540	
Visible Diodes	G3550	<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>Turns off visible diodes</p>
	G3520	
	Mode	
	Normal	
	External Inp.	
Sides	Demo	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
	Trigger	
	OFF	
Ext. Inp. Open	Both ON	Door open signal rising or falling edge signal (see Section 6 for details)
	TX only ON	
Ext. Inp. Close	RX only ON	Door closing signal rising or falling edge signal (see Section 6 for details)
	Rising Edge	
Green On Time	Falling Edge	Sets green diodes on time (10 to 1000s)
	Rising Edge	
Red On Time	Falling Edge	Sets red diodes on time (2 to 1000s). Note: flashing/solid combined on time
	Rising Edge	

2D	Parallel Only	OFF	Panachrome <sup>®</sup> 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		Beam timeout time (10 to 360s)
	Timeout Period			Canadian timeout time setting (not enabled)
Cdn TMO Period				
Sleep	OFF	Turn sleep mode ON or OFF. Default OFF		
	ON			
3D	Smrt3D Enable	Off	Turns Off Smart 3D sensor	
		On	Turns On Smart 3D sensor	
	Smrt3D LF Distance		Sets the door separation distance (in) at which the Radar detection area is switched from high to low. The default is set to 23.62". Each increment change is 0.4"	
		+0 (default)		
	Smrt3D SF Distance		Sets the door separation distance (in) at which the Radar detection is turned off. The default is set to 11.81". Each increment change is 0.4"	
		+0 (default)		
	3D IR Enabled	Off	** Only Available with 3D light curtains. Enable/disable 3D Infra-red detection. Advise to switch to off when using Smart 3D	
		On		
	IR Sensitivity	High	** Only Available with 3D light curtains. Sensitivity settings to be changed if IR is enabled and you are getting false triggers from the device.	
		Intermediate		
Low				
3D Mode	On at closing	3D activates when the doors are closing		
	On at 800mm/31.5"	3D activates when the doors are approx 800mm apart		
	On always	3D always with no 3D time-out		
	On (10s)	3D always with 10s 3D time-out		
	On (20s)	3D always with 10s 3D time-out		
Timeout Count	1-10	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 timeout. If a trigger is on for the timeout period (Cdn TMO) then the relay will activate
Audio	Beeper	OFF	Relay 2 disabled	
		Beep ON	Beeper off	
Speech	Beep Closing	Beep Closing	Beeper active on a trigger	
		OFF	Beeper active when the doors are closing and triggered	
		ON	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	<table border="1"> <tr> <td>Internal</td> <td>Enable internal speaker</td> </tr> <tr> <td>External</td> <td>Enable external and disable internal speaker</td> </tr> </table>	Internal	Enable internal speaker	External	Enable external and disable internal speaker														
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Speech Language	Defaulted to the same as menu language																		
Key Sounds	Keypad sounds OFF/ON																		
Door Block	<table border="1"> <tr> <td>Enabled</td> <td>Turn door block ON/OFF</td> </tr> <tr> <td>OFF</td> <td>Turn door block OFF</td> </tr> <tr> <td>ON</td> <td>Turn door block ON</td> </tr> </table>	Enabled	Turn door block ON/OFF	OFF	Turn door block OFF	ON	Turn door block ON												
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Voice Interval	Interval between each door blocked announcement																		
Door Cycle Time	Time in seconds for a full door cycle from door open to door closed																		
Voice Limit [X]	Number of announcements when triggered																		
Voice Limit [ ]	Number of announcements when untriggered																		
Alert Interval	Time in minutes before door block alert sent to hub. Alert will be repeated at the same interval (default 5 mins)																		
Fault Interval	Time in minutes before door block fault alert is sent via email. This will then repeat at the same interval (default 15 mins)																		
Door Cycle	Counts the number of full door cycles from last power ON																		
Hub Post Frequency	When enabled the number of door cycles will be posted to the hub																		
Advanced	<table border="1"> <tr> <td>Top Diode</td> <td>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</td> </tr> <tr> <td>Bottom Diode</td> <td>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</td> </tr> <tr> <td>Profile</td> <td> <table border="1"> <tr> <td>10mm</td> <td>G2510/G3510/G3550</td> </tr> <tr> <td>23mm</td> <td>G3520</td> </tr> <tr> <td>43mm</td> <td>G2540/G3540</td> </tr> </table> </td> </tr> <tr> <td>Profile Auto Detect</td> <td> <table border="1"> <tr> <td>Off</td> <td>Disables automatic profile detection</td> </tr> <tr> <td>On</td> <td>Enables automatic profile detection</td> </tr> </table> </td> </tr> </table>	Top Diode	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	Bottom Diode	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	Profile	<table border="1"> <tr> <td>10mm</td> <td>G2510/G3510/G3550</td> </tr> <tr> <td>23mm</td> <td>G3520</td> </tr> <tr> <td>43mm</td> <td>G2540/G3540</td> </tr> </table>	10mm	G2510/G3510/G3550	23mm	G3520	43mm	G2540/G3540	Profile Auto Detect	<table border="1"> <tr> <td>Off</td> <td>Disables automatic profile detection</td> </tr> <tr> <td>On</td> <td>Enables automatic profile detection</td> </tr> </table>	Off	Disables automatic profile detection	On	Enables automatic profile detection
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## 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"> <li>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.</li> <li>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.</li> </ol>
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.