



Panachrome Universal Controller Installation Guide

The Panachrome 3D Controller C3850 is designed to operate with Panachrome 3D detectors, e.g. C3540, C3510. Check you have the correct items.

Controller Installation

Position the controller in a suitable place on the roof of the lift car, and fix using 4 off No.8 screws.

- + Signals from lift required:
- + Power supply - AC supply voltage between 85 to 240vac.
- + Alternatively, 18-25vdc.
- + Relay 1 output - a changeover relay provides the signal to the lift controller to re-open the doors.

North American nudging mode

This special timeout mode is used where the detector (not the lift controller) controls the nudging operation. The second relay contacts are used to control the elevator door closing speed and any audible or visual warnings. To select this function set switch 5 number 1 to ON.

VISUAL INDICATION

There are 2 options available to initiate the visual indication of door movement:

1. Automatic (Factory-set default position) - As the doors move, the system detects the motion causing the LEDs to flash red on closure, or illuminate green on opening. No additional wiring to the lift controller is then required. Switching delays vary according to door movement speeds and if the visual delay is not practical, then the installer should consider the external signalling method [see b) below].
2. Nudging (not applicable to North American nudging mode) - When the Panachrome is used in Automatic mode and the elevator controller provides a nudging facility, then the nudging control signal can be connected to the Panachrome CLOSING input. This will ensure that when the doors close under nudging control the Panachrome display remains RED, even if the detectors are triggered. The polarity of the nudging control signal can be changed by setting switch 6 number 3 (SW6/3).

3. External Signal - Signals are required from the door operator/lift controller to switch the LEDs to red or green. Voltages of between 12v and 230vac/dc from the door open and door close contactors are connected to the input of the Panachrome controller. Refer to Table below for details.

Note: The voltage on the inputs must never exceed 250v. Beware of voltage transients which may exceed this (e.g. from relay coils). If necessary, fit appropriate suppression or snubber device.

For external signal activation, SW6/3&4 must be set according to whether the voltage will rise or fall when the signal from the controller is applied. If the voltage rises when the doors move, then set SW6/4 on (Opening) SW6/3 (Closing). If the voltage is normally present, and falls when the doors move, then set these switches OFF.

External signal activation provides the quickest response to indicate door movement.

Switch Settings

3D control is split between SW4 in tables 2 & 3 and SW5 in Table 1.

| | | |
|-----|--|---|
| SW5 | 3D Control | Functions |
| | OFF | ON |
| 7 | Normal 3D | Adaptive 3D |
| 8 | 2D detector fitted (C2540/C2510) | 3D detector fitted (C3540/3510) |
| SW5 | 2nd Relay | Functions |
| | OFF | ON |
| 1 | Function disabled | Canadian timeout mode enabled |
| 2 | Function disabled | 2nd relay operates on 3D trigger |
| 3 | Function disabled | 2nd relay operates with main relay (RL1) |
| 4 | Function disabled | 2nd relay operates on system fault |
| 5 | Function disabled | 2nd relay operates on 2D trigger longer than timeout period |
| 6 | Function disabled | 2nd relay operates as SW5/5 above plus timed out 2D beam |
| SW6 | Visible Display | Functions |
| | OFF | ON |
| 1 | Visual display OFF | Visual display ON |
| 2 | Wired, external signal, LED activation | Automatic visual LED activation |
| 3 | Closing, external signal FALLS | Closing, external signal RISES |
| 4 | Opening, external signal FALLS | Opening, external signal RISES |
| 5 | NORMAL display mode | TEST/DEMO display mode |
| 6 | Unused | |
| 7 | Unused | |
| 8 | Unused | |

Table 1: SW5 & SW6 Settings

The label inside the lid has further details on positions and settings of the switches.

Adaptive Software

The Panachrome 3D controller can be configured to operate with special “adaptive” software.

In certain environments, the amount of light scattered from surfaces (e.g. marble floors, mirrored walls or within the detectors), may cause false 3D triggers. The adaptive software option allows the system to automatically sense this background level and adjust the trigger threshold appropriately. This is done by setting SW5/7 ON.

In environments where the amount of scattered light is low, then superior 3D performance can be obtained by turning the adaptive software off. This is done by setting SW5/7 OFF.

Janus recommends the following settings:-

| | | |
|--------------------|----------------------|-----------|
| C3510 | Adaptive control off | SW5/7 OFF |
| C3540 from 2007 on | Adaptive control off | SW5/7 OFF |
| C3540 pre 2007 | Adaptive control on | SW5/7 ON |

3D INSTALLATION NOTES

3D Configuration Instructions

Introduction

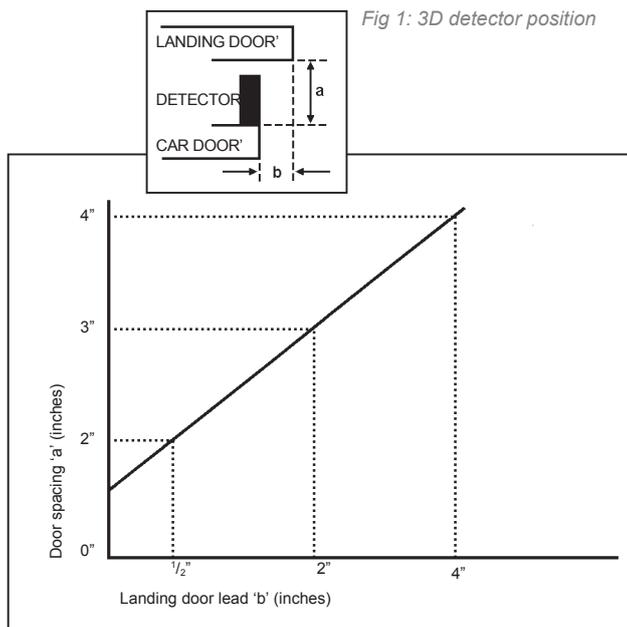
The Panachrome detectors have an infra-red light curtain and an independent proximity detection system which provides landing door protection. The 3D proximity detection projects half the separation width of the lift doors into the landing. The controllers' door operator relay will de-energize on either a 3D or light curtain trigger and so cause the doors to re-open. In all 3D operation modes the 3D proximity detection will continue to remain active while the lift doors close up to a separation of 8", at which stage the 3D proximity detection is switched off. The 3D operating modes and sensitivity are set up using SW4 & SW5/7+8.

When installing a Panachrome 3D system, the following precautions must be observed for trouble-free operation:-

- + The landing doors must not lead the car doors by more than the suggested permissible amount as shown in Fig 1 and Fig 2.

Note: The maximum permissible landing door lead is further reduced if the detectors are set back from the leading edge of the car doors.

- + Always mount the detectors as close to the door edge as possible.
- + For opening exceeding 4', it is recommended that 'As Doors Close' mode is used.
- + The detectors must be set no more than 3/8" apart when the doors are fully closed. The detector must be aligned to within $\pm 5/16$ " of the detector centreline.



Note: this graph is indicative only and relies on the accuracy of installation and the reflective properties of the landing doors and the lift entrance

Fig 2: Maximum permissible landing door lead 'b' versus door spacing distance 'a'

3D OPERATING MODES (SW4)

The 3D proximity detection system can be set up to operate in a number of ways as described below:

- 1) As doors close - Switches 1 & 2 both OFF 

3D proximity detection will be activated as the doors begin to close. The system will allow up to three consecutive triggers on the 3D. After this, the 3D will be turned off leaving only the light curtain detection. If the light curtain is broken then three further 3D triggers are enabled.

*Note: If the 3D is triggered there is a 2 second delay before the 3D is re-enabled to allow the doors to reopen.

2) 3D Timeout (20 seconds) - Switch 1 ON and Switch 2 OFF



In this mode of operation the 3D proximity detection is activated when the doors have reached their fully opened position. 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 door operator 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 'TONE' switch position. If the 3D zone becomes clear then the timer is reset and the door operator relay is re-energised allowing the doors to close.

If the light curtain is broken at any time, the timer will then be reset and the door operator relay is deenergised which allows the doors to re-open. The 3D timer is set at 20 seconds internally.

3) At 2' 8" - Switch 1 OFF & Switch 2 ON



This mode of 3D operation is similar to 'As Doors Close' but the 3D will only become active when the doors are closing and have reached a separation of 2' 8". This mode is usually for wider doors to restrict the range of 3D detection into the landing.

Note: If the 3D is triggered there is a 2 second delay before the 3D is re-enabled to allow the doors to reopen.

4) 3D Timeout (10 seconds) - Switch 1 & 2 ON



The operation is the same as in Section above. However, the 3D is set at 10 seconds internally. 3D

CONTROLLER SWITCH SETTINGS (SW4)

| 3D Operating Mode | Switch 1 | Switch 2 |
|---------------------------|----------|----------|
| 'As Doors Close' | OFF | OFF |
| 'At 2' 8" | OFF | ON |
| '3D Timeout - 20 seconds' | ON | OFF |
| '3D Timeout - 10 seconds' | ON | ON |

Table 2 - 3D Operation Mode

| 3D Sensitivity | Switch 3 | Switch 4 |
|------------------|----------|----------|
| Highest | ON | ON |
| Intermediate | OFF | ON |
| Normal | ON | OFF |
| 3D detection off | OFF | OFF |

Table 3 - 3D Sensitivity

3D Sensitivity Adjustment: (SW4)

In most cases the 3D's sensitivity will not require adjustment. However, it may need to be adjusted to overcome spurious reflections which cause erratic 3D triggering. The sensitivity should be first be set to the highest level i.e. level 1. If erratic 3D triggers are experienced then select the next lower level of sensitivity. Continue lowering the sensitivity until the unit operates without any erratic 3D triggers.

Level 1 - Highest Sensitivity Level



2 - Intermediate Sensitivity Level 3



- Normal Sensitivity Level 4 - 3D



Detection Off



Troubleshooting:

| | |
|--|---|
| No 3D detection when the 3D is supposed to be active | Check that 3D detectors are fitted i.e. Model C3540 or Model C3510 |
| | Check that TX is on the left and RX on the right when viewed from the landing |
| | Check that switches SW4/3 & 4 are not in the OFF position |
| | Check that switches SW4/1 & 2 are correctly set to the desired mode |
| Unit false triggers as doors are closing | Make sure that the 3D detectors are mounted as far forward as possible |
| | Reduce the sensitivity using switches 3 & 4 if necessary |

