

ELITE INSTALLATION GUIDE

Issue 010 - March 2022

CAME 
ENTROTEC

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Installation Specification

It is the responsibility of the installer to follow Entrotec's installation and cable specification as well as ALL relevant wiring regulations. Failure to comply with Entrotec's installation and cable specification may result in erratic operation of equipment and could invalidate any warranty.

Installations must comply with the following standards:

- BS 7671: Requirements for electrical installations. IET Wiring Regulations 17th Edition.
- BS EN 50133-1: Alarm systems. Access control systems for use in security applications. System requirements.
- BS EN 50133-2-1: Alarm systems. Access control systems for use in security applications. General requirements for components.
- BS EN 50133-7: Alarm systems. Access control systems for use in security applications. Application guidelines.
- BS 7807: Code of practice for design, installation and servicing of integrated systems incorporating fire detection and alarm systems and/or other security systems for buildings other than dwellings.

IET Wiring Regulations 17th Edition: Regulation 528-01 (Proximity to electrical services) imposes requirements for segregation of door entry / access control circuits (Band I), 230VAC mains circuits (Band II) and other higher voltage circuits.

IET Wiring Regulations 17th Edition: Regulations 542 to 543 impose requirements for earthing and bonding conductors. Ensure ALL metalwork is bonded to the buildings earth, this includes call panels, exit switches, cabinets and metal conduit. Ring terminals and earth points are provided on call panels and cabinets to terminate earth cables, ensure these connections are made.

Warranty and Support

Entrotec systems are renowned for their reliability and have a 2 year warranty on all Entrotec manufactured products as standard. This warranty does not cover water damage, vandalism, mains electrical faults, lightning strikes, damage caused by miswiring or cable faults.

Entrotec offer complimentary training courses and telephone support:

01506 886 235 - 8:30am to 5pm Mon-Thurs and 8:30am to 4pm Friday.

WARNING

DO NOT USE CCA (Copper Clad Aluminium), **CCS** (Copper Clad Steel) or **CCC** (Copper Clad Copper).
These cables are far less conductive than a pure copper cable and will cause erratic operation.

TEST FOR PURE COPPER CABLE

The typical DC resistance of each core of UTP cable is ≤ 10 Ohms/100M.

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Cabling Requirements

1) Between front panel(s) and main control unit.

CW1308 - 1 core per flat, 2 core for common and Trades, 1 x 6 pair for LCD + Speaker Amp connections, 0.75mm² flex is preferred for 12V DC, 2.5mm² Earth.

2) Between lock releases and main control unit.

2 Cores 1.5mm² Minimum (Running via any Push To Exit and Fire Switches),
2 pair CW1308 for door monitoring and anti-tailgating.

3) Between handsets and main control unit.

CW1308 or Cat5e - 4 pair minimum to ED audio or EV series video handsets.

4) Between ancillary equipment and main control unit if fitted.

CW1308 or Cat5e - 2 cores for Push to exit, 2 cores for Fire switch, 3 cores for Door contacts require.
Note: Fail safe lock release cables should be run via fire switch and push to exit NC contacts.

5) Between readers and access control unit if fitted.

CW1308 or Cat5e - 6 cores minimum (run separately from other multi cores).

6) Between camera and main control unit if fitted.

1 x RG59U + 0.75mm² 2 core flex.

7) Between handsets and flashing beacons and/or extension sounders.

CW1308 or Cat5e - 4 cores.

8) Between handsets and extension handsets

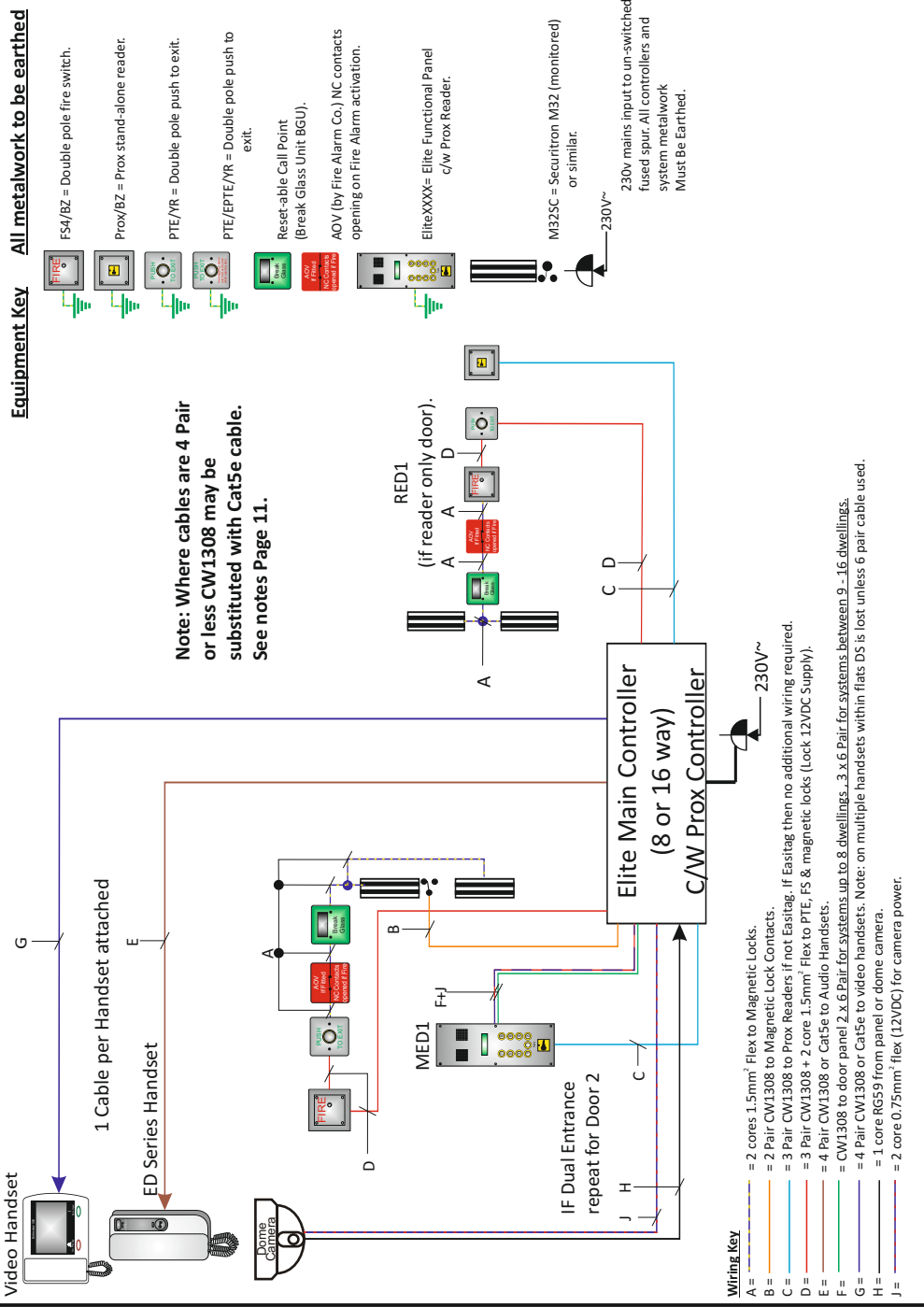
CW1308 or Cat5e - 4 pair minimum.

Note: each EV/EV+ video handset requires separate 4 pair between controller and handset.

BT Colour Code (15 Pair)

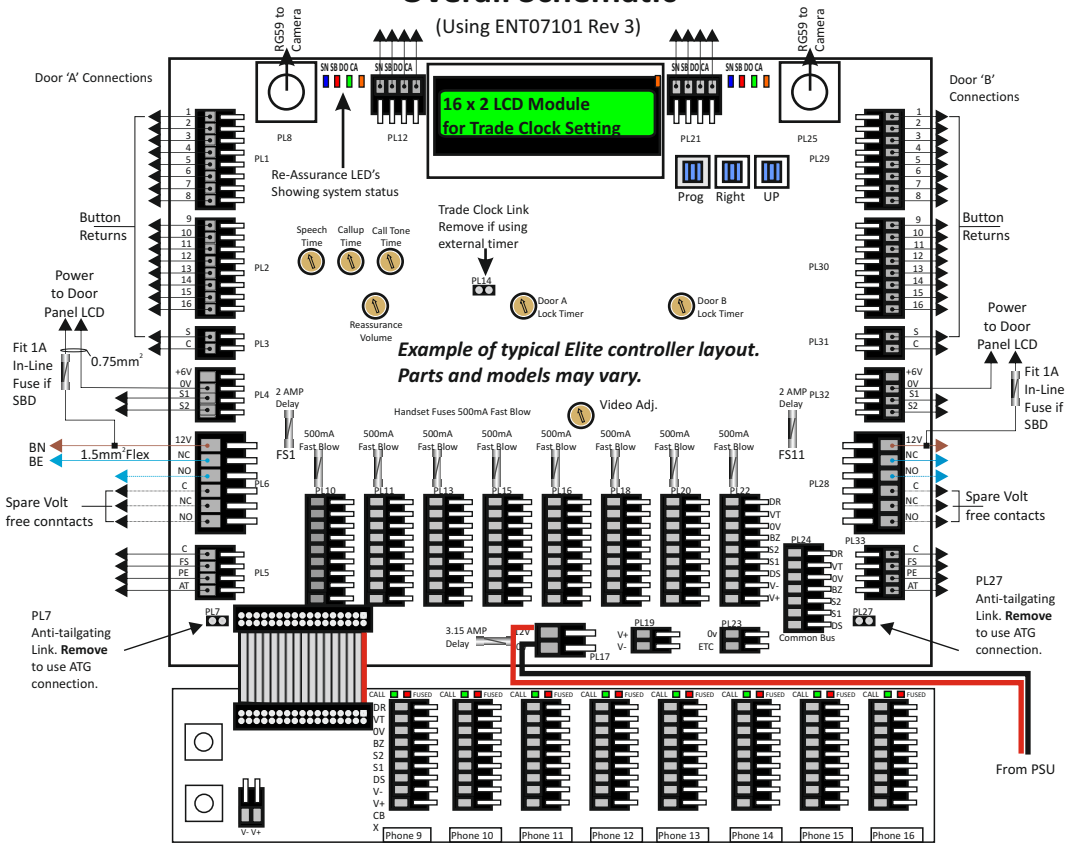
Pair 1	White/Blue (WE/BE) Blue/White (BE/WE)	Pair 6	Red/Blue (RD/BE) Blue/Red (BE/RD)	Pair 11	Black/Blue (BK/BE) Blue/Black (BE/BK)
Pair 2	White/Orange (WE/OE) Orange/White (OE/WE)	Pair 7	Red/Orange (RD/OE) Orange/Red (OE/RD)	Pair 12	Black/Orange (BK/OE) Orange/Black (OE/BK)
Pair 3	White/Green (WE/GN) Green/White (GN/WE)	Pair 8	Red/Green (RD/GN) Green/Red (GN/RD)	Pair 13	Black/Green (BK/GN) Green/Black (GN/BK)
Pair 4	White/Brown (WE/BN) Brown/White (BN/WE)	Pair 9	Red/Brown (RD/BN) Brown/Red (BN/RD)	Pair 14	Black/Brown (BK/BN) Brown/Black (BN/BK)
Pair 5	White/Grey (WE/GY) Grey/White (GY/WE)	Pair 10	Red/Grey (RD/GY) Grey/Red (GY/RD)	Pair 15	Black/Grey (BK/GY) Grey/Black (GY/GY)

Typical Wiring Schematic



Overall Schematic

(Using ENT07101 Rev 3)



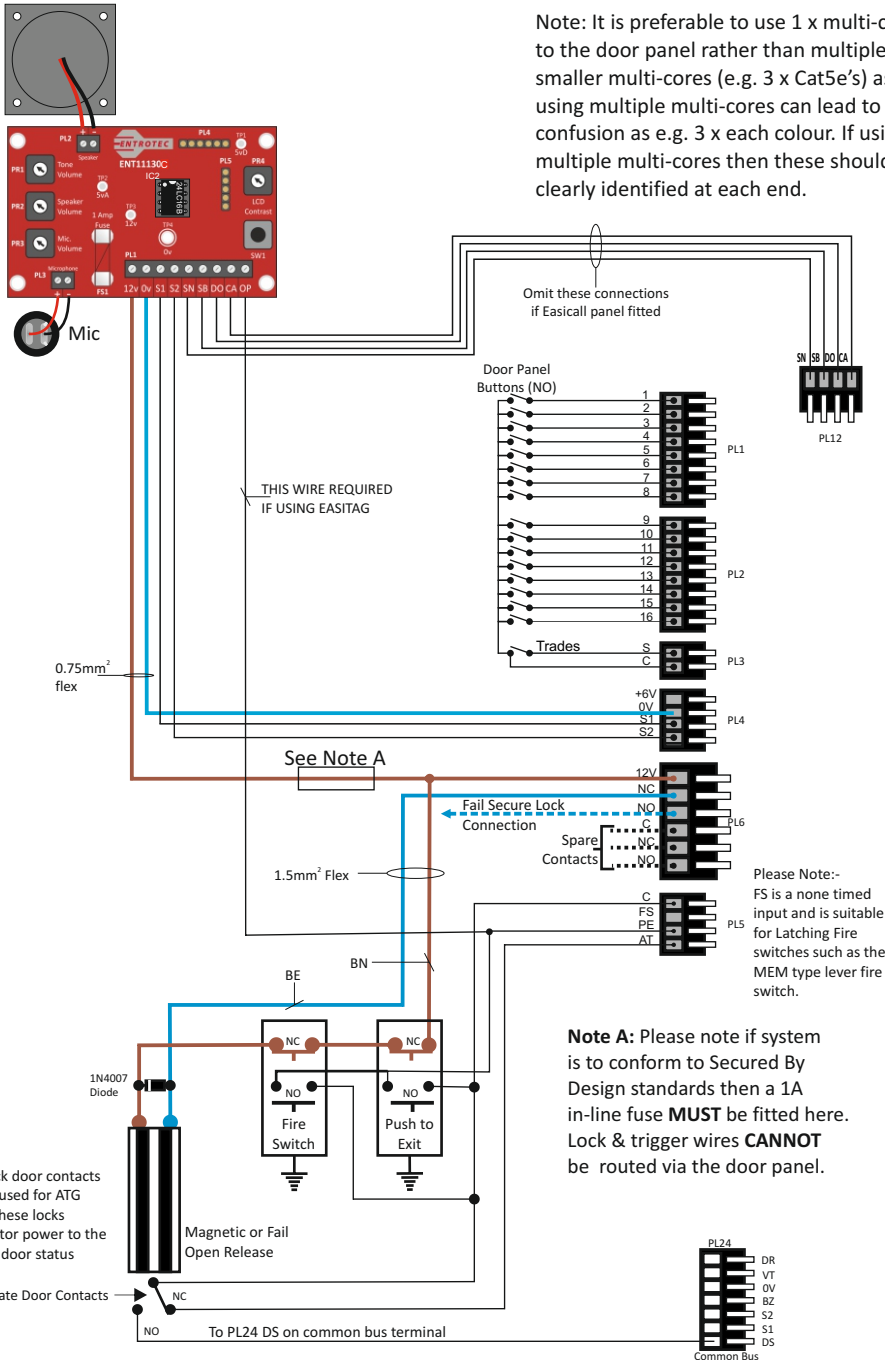
Terminal Identifier:

- PL1, 2, 29 & 30** - Button returns/call lines 1 to 16 for doors A & B. 5VDC idle, 0v when button pressed.
- PL3 & 31 (S)** - Service/Trades (S) button returns for doors A & B. 5VDC idle, 0v when button pressed.
- PL3 & 31 (C)** - Button common = 0v.
- PL4 & 32** - Speaker amp connections for doors A & B. +6 = 6 VDC for legacy systems, 0v, S1 = panel microphone, S2 = panel speaker.
- PL6 & 28 (12v)** - 12 volts DC supply to locks fused by FS1 & FS11. Use 1.5mm2 flex
- PL6 & 28 (NC)** - Normally Closed switched 0v for fail open releases. Use 1.5mm2 flex
- PL6 & 28 (NO)** - Normally Open switched 0v for fail locked releases. Use 1.5mm2 flex
- PL6 & 28 (C, NC & NO)** - Volt free spare contacts to trigger automatic doors etc.
- PL5 & 33 (C)** - 0v common for external lock triggers.
- PL5 & 33 (FS)** - Non timed fire switch input (for timed input when using Drop key switches use PE). 5VDC idle, 0v to activate.
- PL5 & 33 (PE)** - Timed lock release trigger for push to exits, drop key fire switches and access controllers. 5VDC idle, 0v to activate.
- PL5 & 33 (AT)** - Anti tail gating. Requires normally open going closed door monitor contacts. 0v idle, 5VDC when door opened.
- PL14** - Service/Trades time-clock link. Remove if using external time-clock.
- PL17** - 12 to 14 volt DC power supply input.
- PL19** - Twisted pair video output to expansion PCB's etc.
- PL23** - External service/trades time clock input. Note: remove PL14 to disable internal time clock.
- PL24** - Common bus to remote marshaling PCB's. DR = Door Release, VT = 12 volt DC supply, 0v = 0v, BZ = buzz tone, S2 = mic input from handset, S1 = speaker input to handset, DS = Door Status for door open LED on handset.
- PL10, 11, 13, 15, 16, 18, 19, 20 & 22** - Phone ports for first 8 handsets. See Page 9 for handset connections.
- PL8 & 25** - BNC Video inputs from cameras.
- PL12 & 21** - LCD connections to door panel. SN = Speak Now, SB = System Busy, DO = Door Open & CA = Call Accept.

NOTE: For CW1308 or Cat5e cables, use the BT Colour Code (see Page 4). It is advisable to link all spare cores to 0v.

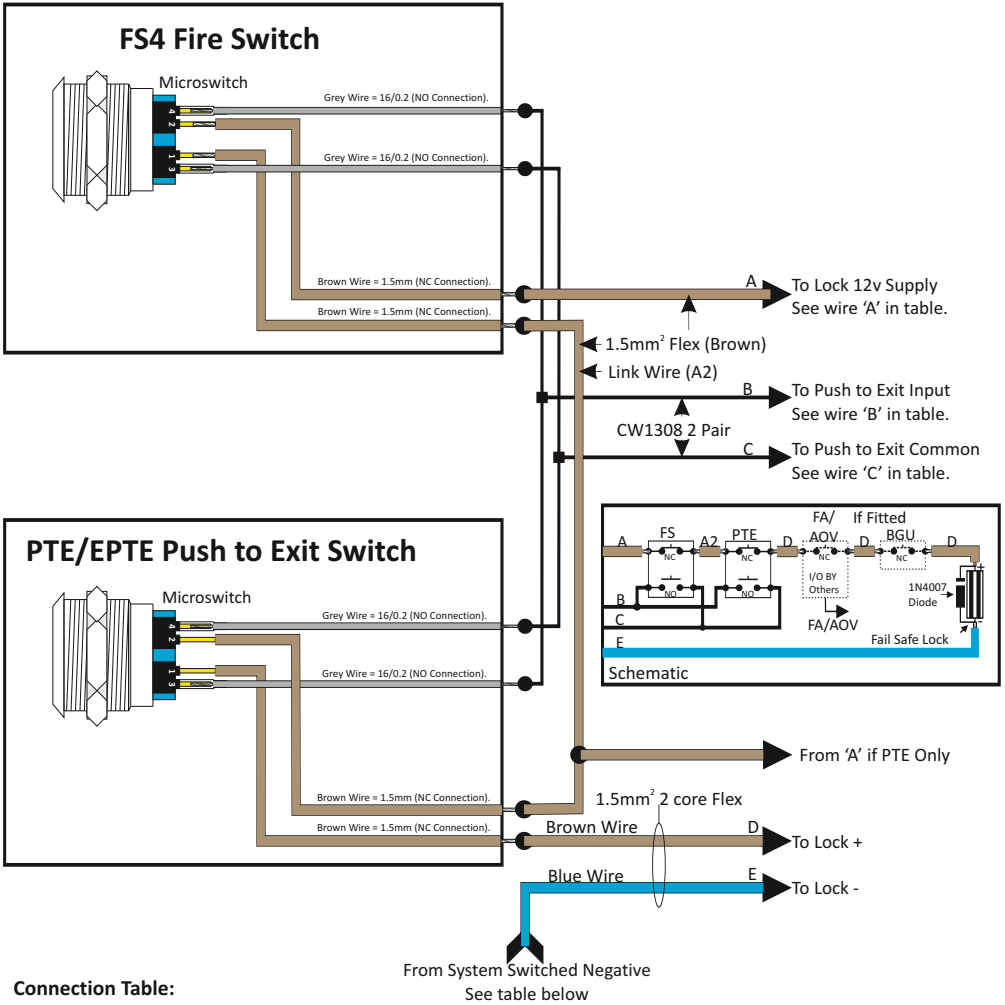
Typical Installation Layout

Note: It is preferable to use 1 x multi-core to the door panel rather than multiple smaller multi-cores (e.g. 3 x Cat5e's) as using multiple multi-cores can lead to confusion as e.g. 3 x each colour. If using multiple multi-cores then these should be clearly identified at each end.



Note:-
Magnetic lock door contacts **CANNOT** be used for ATG function as these locks usually monitor power to the lock and not door status

FS4 & PTE/EPTE Wiring Diagram



Connection Table:

Connection Terminal:	Elite Controller
Wire A (Brown 1.5mm ²)	PL6/12V (PL28/12V)
Wire B (CW1308)	PL5/C (PL33/C)
Wire C (CW1308)	PL5/PE (PL33/PE)
Wire D (Brown 1.5mm ²)	Lock + or BGV
Wire E (Blue 1.5mm ²)	PL6/NC (PL28/NC)

Note: Connections in brackets are for 2nd door connections. Also note if system Door Entry DE then all connections for locks are made at the Door Entry System (i.e. Access Controllers trigger Door Entry PE inputs with a NO 0V).

Handset Connections

ED3+ ED4+, & RH3+ Wiring Schematic

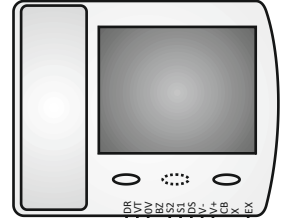


Do Not Wire To EX With Spare Core(s)

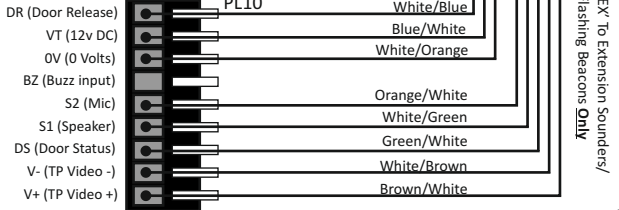
USE CW1308 or Cat5e CABLE

See notes on Page 11

EV Series Handset Wiring Schematic



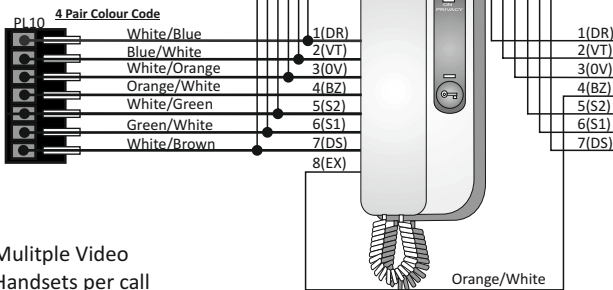
4 Pair CW1308 or Cat5e Colour Code



Note: BZ connection not required for single handset with internal ringer. See Notes Page 11.

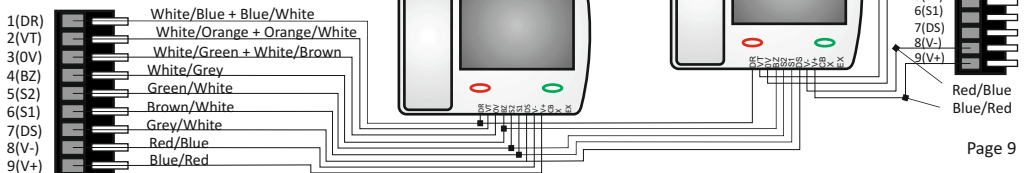
NOTE - The EX connection is ONLY to be used on Entrotec Extension sounders and accessories. DO NOT fit a wire into EX for any other purpose. It is advisable that unused cores be tied to system 0v.

Multiple ED3+ ED4+ & RH3+ Wiring Schematic (up to 3).



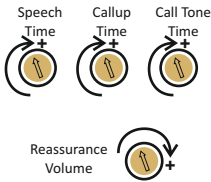
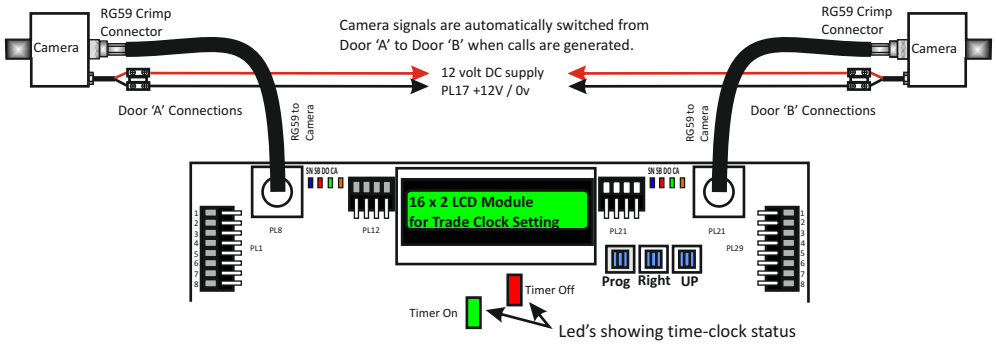
Multiple Video Handsets per call (up to 3) Handset port where call is made to e.g. Phone 1 with 2 video handsets.

Colour Code using CW1308 6 pair

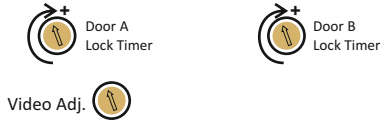


Spare port supplies 12v & Video 1 port per additional handset reqd.

Video Schematic (Dual or Single Entrance)



Preset Adjustments



Speech Time: Adjusts how long the user can talk for before the system resets, 10 seconds to 2 minutes.

Call-up Time: Adjusts how long the system stays 'live' for once a call has been made, 10 seconds to 2 minutes.

Call Tone Time: Adjusts how long the call tone is emitted to the handsets and front panel, 1 to 25 seconds.

Reassurance Volume: Adjusts the volume of the call tone at the front panels and should be set in accordance with 'on-site' conditions.

Door A/B Lock Timer: Adjusts the door open time period and should be adjusted to suit 'on-site' requirements. 1 to 30 Seconds.

Video adjustment: Adjusts the video balance to fine tune the video picture quality and should be adjusted 'on-site' to suit installation.

Programming the 'On Board' Trades Time-Clock

On switch on of the system the screen will display **ENTROTEC**. Then display the Date, the day of the week, the timer status on line 1. Then time of day, nxon (next on period of timer) and the next on time as example below.

Note: When nxon displays 00;00 the Next on period is during subsequent day.

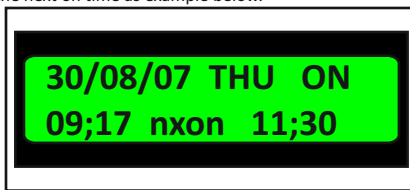
Features:

Up to 12 daily on/off periods can be programmed: 5 day week, by weekend, or an individual day basis.

Time-clock settings:

If at anytime the timer is left for more than 10 seconds without any button 'pushes' it first asks if you would like to erase all settings 'N' for no being highlighted but to change to 'Y' for yes press the right button and then press **Prog** to confirm and save the settings. Or after a further 10 seconds it asks you if you want to 'Save Changes' with again 'N' and 'Y' as above or leaving it alone for a further 10 seconds the timer reverts to original 'non-programming' mode.

To Change Date and Time: Press **Prog** button and the year will be displayed. To change the year press the **Up** button until the correct year is displayed or if already correct press the **Prog** button again to display the month setting and press the **Up** button to correct the month setting or if correct press the **Prog** button again to adjust the day setting by using the **Up** button. To change the time press the **Prog** again and using the **Right** button select the hours, minutes or seconds that you want to adjust and adjust using the **Up** button. When any of the above have been adjusted leave for 10 seconds and the **Save Changes Y/N** screen will appear highlighting 'N' to save your settings press the **Right** button to highlight 'Y' and press the **Prog** button.



Trades Time-Clock Cont.

To Change the Daily (DLY) On & Off Times. Press the **Prog** button 6 times and **DLY 1** will be highlighted and it's condition i.e **On** or **Off**. To change the condition press the **Up** button. To adjust the time period first press the **Right** button to highlight either the hours or minutes and use the **Up** button to adjust the time, leave for 10 seconds and the **Save Changes Y/N** screen will appear highlighting 'N' to save your settings press the **Right** button to highlight 'Y' and press the **Prog** button.

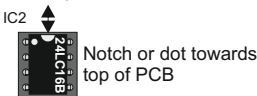
To Change the Week day (M-F) On & Off Times. Repeatedly press the **Prog** button until **M-F 1** will be highlighted and it's condition i.e **On** or **Off**. To change the condition press the **Up** button. To adjust the time period first press the **Right** button to highlight either the hours or minutes and use the **Up** button to adjust the time, leave for 10 seconds and the **Save Changes Y/N** screen will appear highlighting 'N' to save your settings press the **Right** button to highlight 'Y' and press the **Prog** button.

To Change the Weekend (WKN) On & Off Times. Repeatedly press the **Prog** button until **WKN 1** will be highlighted and it's condition i.e **On** or **Off**. To change the condition press the **Up** button. To adjust the time period first press the **Right** button to highlight either the hours or minutes and use the **Up** button to adjust the time, leave for 10 seconds and the **Save Changes Y/N** screen will appear highlighting 'N' to save your settings press the **Right** button to highlight 'Y' and press the **Prog** button.

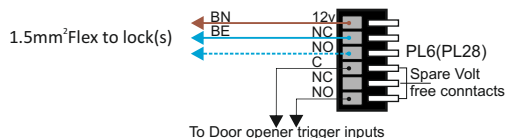
To Change the Individual Day (Mon) On & Off Times. Repeatedly press the **Prog** button until **MON 1** (or the appropriate day) will be highlighted and it's condition i.e **On** or **Off**. To change the condition press the **Up** button. To adjust the time period first press the **Right** button to highlight either the hours or minutes and use the **Up** button to adjust the time, leave for 10 seconds and the **Save Changes Y/N** screen will appear highlighting 'N' to save your settings press the **Right** button to highlight 'Y' and press the **Prog** button.

System Notes

- A). If using 4 pair CW1308 or Cat5e cable on a flat that has multiple video handsets fitted (e.g. DDA flat) and the internal ringer is enabled, BZ must still be connected to ensure correct operation of the call tone. To achieve this the DS function is lost. If DS is a requirement then use CW1308 6 pair. Maximum distance between video handsets and controller when using 4 pair cable is 70 metres.
- B). When using mains rated cables for locks etc. Always use flex rather than single core cables as single core cables put strain on the terminal connectors.
- C). Earth all metalwork connected to the system i.e. Door Panels, fire switches, push to exits etc.
- D). Whilst Entrotec preset the power supplies to output 13.8v DC to charge batteries it is advisable that these are reset to 13.8v when the system is under full load (with battery disconnected).
- E). If using Easitag access control then user keys must be added to each door separately. Key-fobs are stored in the door panel PCB and stand-alone readers. If these are replaced at anytime then it is advisable to swap IC2 so that all key information is retained rather than retrieve keyfobs from residents. IC2 is the only IC that is removable and fitted in a socket. Ensure correct orientation.



- F). If using automatic door openers then wire doorlocks as shown and using the spare relay connections, connect C & NO connections to trigger the automatic door opener.



Note: it is imperative that a delay time delay of at least 1 second is set on the door opener. If this is not done then the opener will try to open the door before the locks are released which will eventually burn out the motor.

CAME ENTROTEC

CAME ENTROTEC

5 Ashwood Court
Oakbank
Livingston
EH53 0TL

Tel: 01506 886230

Support: 01506 886235



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