



ELITE INSTALLATION MANUAL

REV 3

USING ENT07101 Rev 3

VER0113

Recommended Installation Procedures for Entrotec Equipment.

The recommendations give below assume the use of CW1308 type cable and are made in conjunction with reference to IEE Wiring Regulations 17th Edition 528-01 'Proximity to electrical services' and BS EN 61000-6-3:2007 & BS EN 50133-1.

Door entry & access control equipment are in 'Band 1' classification.
230v mains cables are in the 'Band 2' classification.

Other cable types can be used but the guidelines given below may or may not be relevant and other installation procedures may need to be adapted.

All unprotected cable runs should be kept away from mains cables as the radiation from these cables may cause the system to be erratic in operation.
In a building where the only way to wire is via an electrical intake, riser cupboard or lift shaft then metallic trunking or conduit should be used unless there is sufficient room within the cupboards to distance the door entry cables from the mains cables.

Mains cables should not be run in the same trunking/conduit as the door entry cables
(although segregated metallic compartment trunking is acceptable).

We recommend that where the cabling is not protected in a metallic containment system that a distance of 1 Metre should be adopted unless other protective measures have been taken conforming to the relevant industry regulations.

If unprotected cables are to run across mains cables then this should be at 90 degrees.

In accordance with IEE Wiring Regulations (17th Edition) please ensure that all metalwork is bonded to the buildings earth, this includes the main control panel, all conduit (if metallic) and most importantly THE EXTERNAL CALL PANELS, READERS & FIRE SWITCHES. A ring connector is provided in the external panels for termination of the earth cable but this bonding is often ignored, please ensure that this connection is made.

If you have any queries about a particular site or are in need of technical assistance please phone, fax or email Entrotec for technical help :-

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Warning!!! Rogue cable is prevalent. Please ensure cables are pure copper and not copper clad imitations as their high resistance will cause system malfunction. These cables may have CCS, CCA, CCAM in their description/part number and are definitely to be avoided as are unmarked outer sheaths. These cables are available in CW1308, RG59, CAT5/6 and mains supply formats. Entrotec will not accept any responsibility for systems wired with incorrect cable (i.e. not to specification).

Tests. To test for CCS (copper clad steel) use a magnet, if it attracts Do Not Use. To test for CCA (copper clad aluminium) heat core with a lighter, if aluminium melts (as its melting point is much lower than copper) Do Not Use. CCAM (copper clad magnesium) is not widely available at present but will burn using the heat test.

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Issue 6. 14/01/2013

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System overview and specification

The RDC Elite system *Using ENT07101 Rev 3*

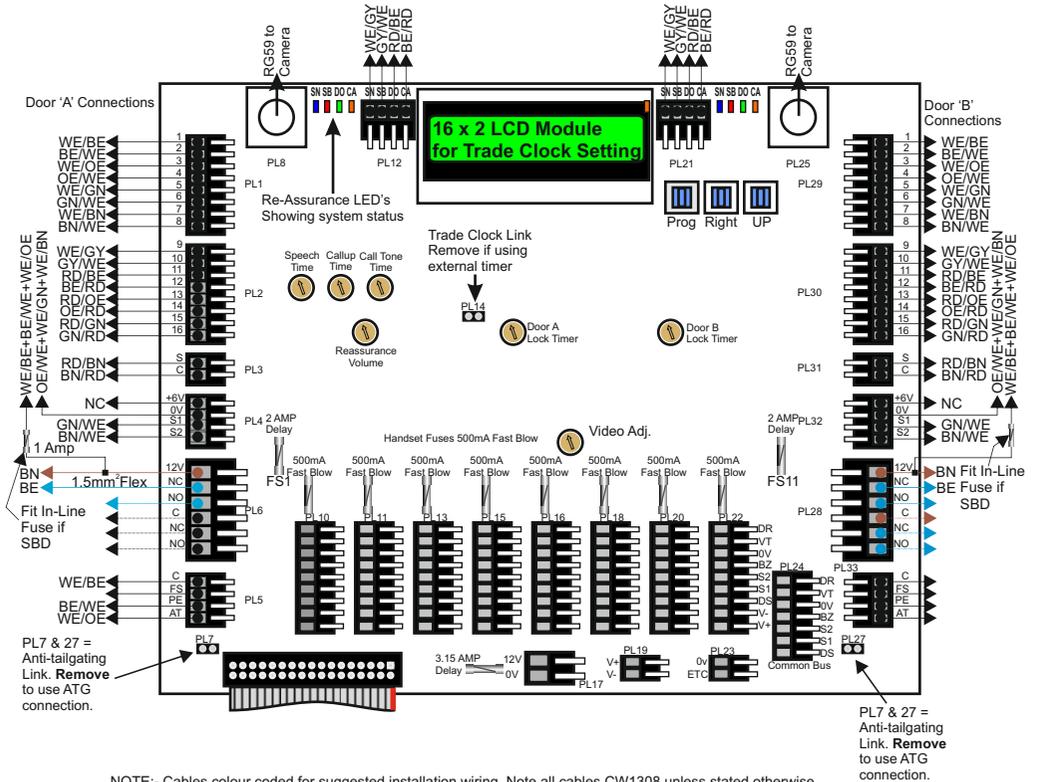
The ENT07101 Rev 3 PCB has the following features :-

- 1). **Full isolation of handsets.** If a user 'damages' or shorts the cables to the handset then only this handset will be affected, all other handsets will work independently.
- 2). **Full fuse isolation of all power supply lines.**
- 3). **Call monitoring.** Green LED's on the control PCB illuminate to show a call in progress and handset being called.
- 4). **Fuse 'blown' indicator LED's.** Red LED's illuminate to show that a handset fuse has blown.
- 5). **Switch Mode power supply.** Up to 3.6 amps continuous at 13.8 volts. (Can be increased to suit requirements).
- 6). **Battery backup.** When required via Switch Mode power supply set at 13.8 volts.
- 7). **Up to 16 handsets.** Up to 8 handsets on main PCB and a further 8 handset ports by using an 8 way marshalling PCB.
- 8). **Dual entrance.** Can be supplied as a 8 or 16 way dual entrance system (additional marshalling PCB required if more than 8 handsets are required).
- 9). **Video system.** The system can be upgraded to a video system on a 'mix & match' basis using standard Entreview twisted pair series video handsets. Requires minimum of 12 cores (6 pair CW1308) to handset and the inclusion of video camera(s). 1 additional pair and a video coax is required between each camera panel and the main control unit.
- 10). **Adjustable call period.** Length of time a handset is 'live' for, once a call is made to it. 1 to 60 seconds adjustable via preset.
- 11). **Adjustable call tone period.** Length of time a handset 'rings' for, once called. 1 to 60 seconds adjustable via preset.
- 12). **Adjustable speech period.** Length of time a caller can speak for, once a handset has been lifted (this time period is terminated on replacement of the handset), adjustable via preset. 10 to 120 seconds.
- 14). **Adjustable lock release period.** Length of time a door is released for, once opened, adjustable via preset. 1 to 60 seconds.
- 15). **Anti- tail gating.** Shortens door release time to 1 second after door is open (requires n/c door contact when the door is in the closed position).
- 16). **Call tone reassurance.** Call tone reassurance at front panel (level adjustable via preset).
- 17). **Onboard Summer/Winter time clock.** Inbuilt Trades clock that automatically adjusts to GMT summer / winter time periods. By removal of link PL14 an external time clock can be used by connecting it's contacts to PL23 0v and ETC.

- 1). **Between front panel(s) and main control unit.** CW1308 - 1 core per handset attached, 2 cores for common + service (trades) and 4 cores for speech. If DDA display fitted (MLR PCB), a further 5 cores minimum are required. Note: an earth wire is required between the front panel and systems bonded earth. If ENT11130A fitted then 1 core per handset + 2 core for common & Trades + 1 6 pair for LCD/SP/Amp connections.
- 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 - 4 pair minimum or 6 pair minimum if using Enterview series video handsets.

Ancillary Equipment

- 4). **Between ancillary equipment and main control unit if fitted.** CW1308 - 2 cores for each of the following:- Push to exit, Fire switch, Door open buzzer. Door contacts require 3 cores if using the Anti-tailgating circuit. **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 - 6 cores minimum (run separately from other multi - cores).
- 6). **Between camera and main control unit if fitted.** 1 x RG59U + 1 pair CW1308 for Camera power.
- 7). **Between handsets and flashing beacons and/or extension sounders.** 4 cores of CW1308.
- 8). **Between MLR display(s) and main control unit.** CW1308 - 5 cores minimum.
- 9). **Between handsets and extension handsets** CW1308 - 4 pair minimum.

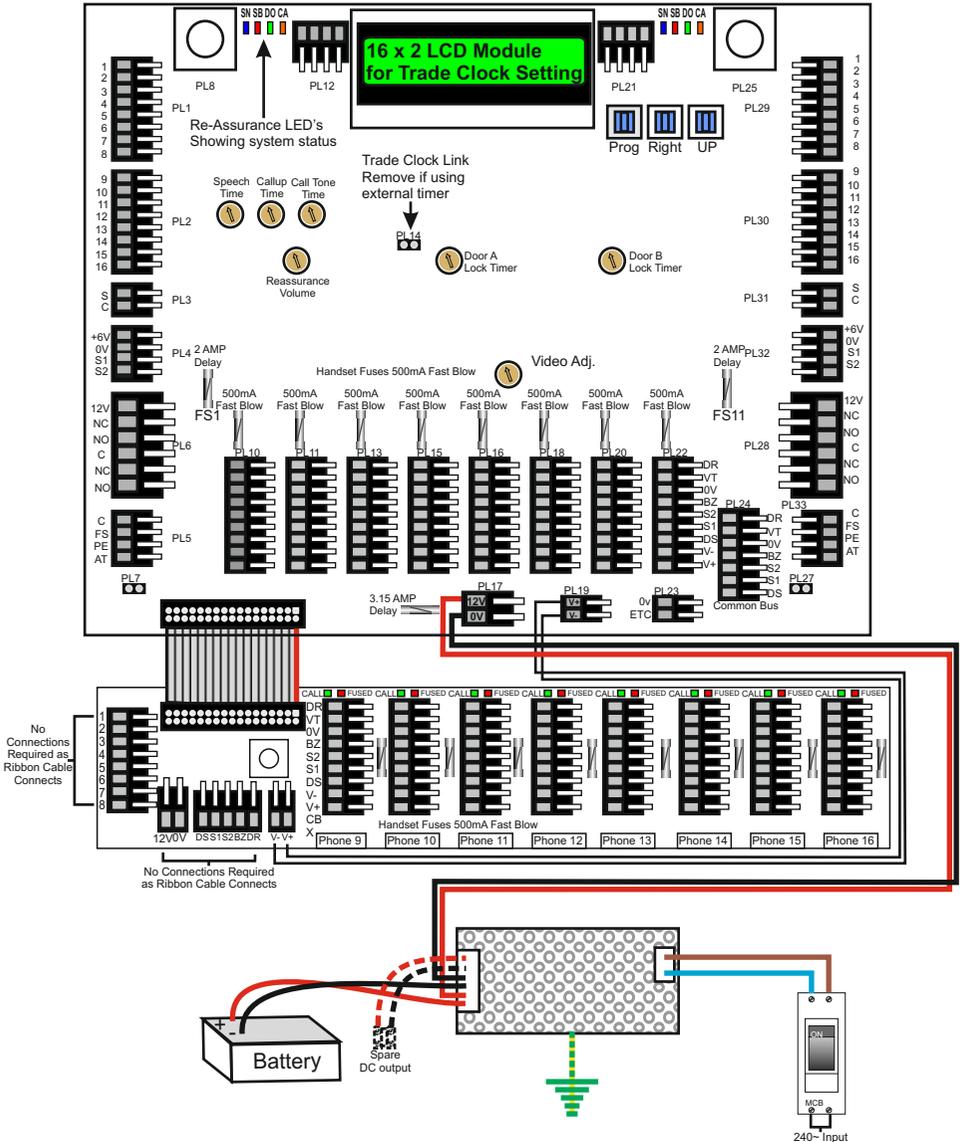


NOTE:- Cables colour coded for suggested installation wiring. Note all cables CW1308 unless stated otherwise.

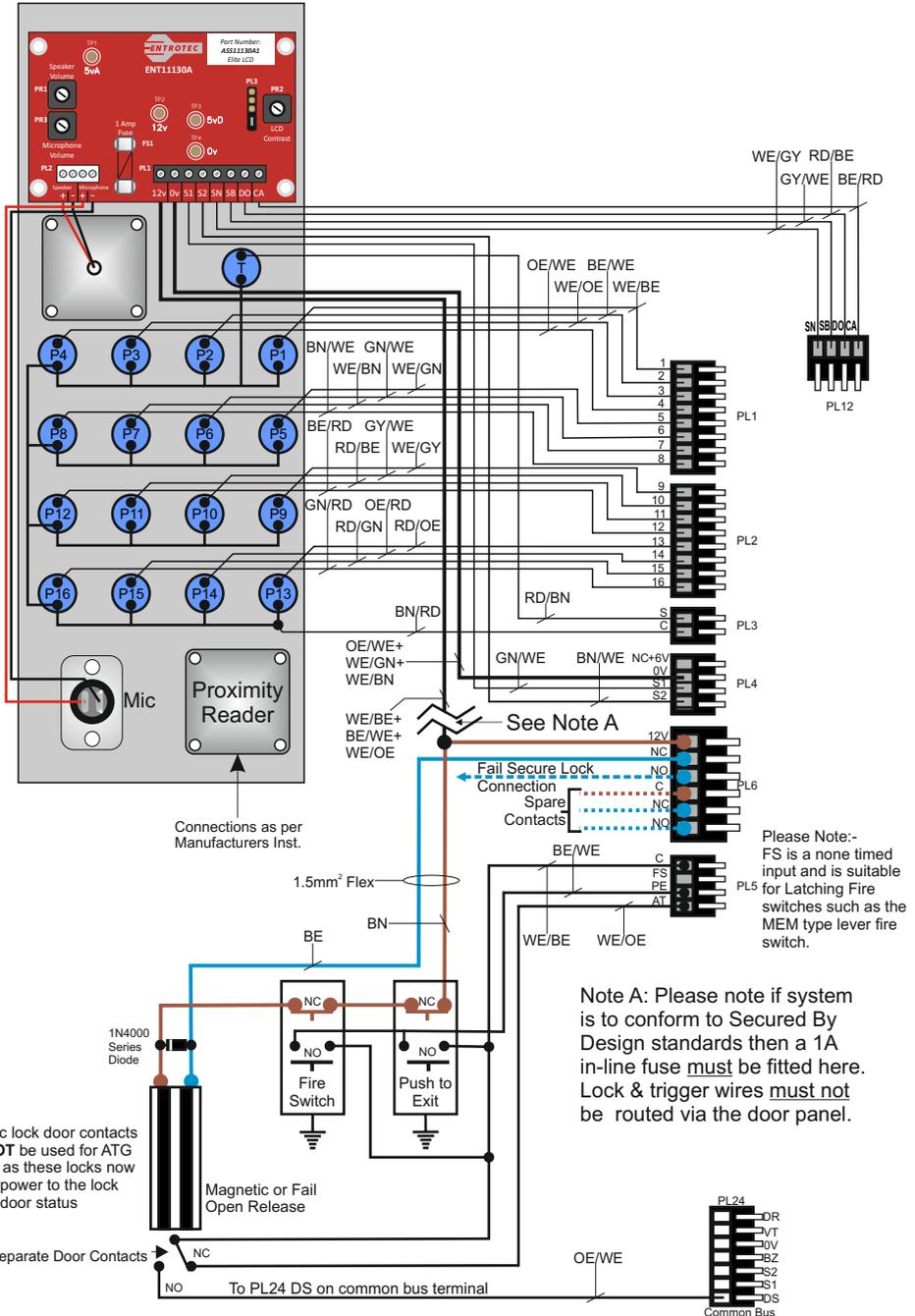
Terminal Identifier:-

- PL1, 2, 29 & 30 - Button returns/call lines 1 to 16 for doors A & B. Sit at 5 volts DC and go to 0v when button pressed.
- PL3 & 31 (S) - Service/Trades (S) button returns for doors A & B. Sit at 5 volts DC and go to 0v when button pressed.
- PL3 & 31 (C) - Button common sits at 0v.
- PL4 & 32 - Speaker amp connections for doors A & B. +6 = 6 volts DC, 0v = 0v. S1 = door panel microphone, S2 = door 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). Sits at 5 volts and drops to 0v.
- PL5 & 33 (PE) - Timed lock release trigger for push to exits, drop key fire switches and access controllers. Sits at 5 volts and drops to 0v.
- PL5 & 33 (AT) - Anti tail gating. Requires normally open going closed door monitor contacts. Sits at 0v and goes to 5 volts when door opened.
If not used insert PL7 & 27.
- PL14 - Service/Trades timeclock link. **Remove if using external timeclock.**
- 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 marshalling 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 6 for handset connections.
- PL8 & 25 - Video inputs from cameras. Use RG59 screened cable.
- PL12 & 21 - MLR connections to door panel MLR PCB's. SN = Speak Now, SB = System Busy, DO = Door Open & CA = Call Accept

Example of typical Elite controller layout. Parts and models may vary.



PSU60W Shown. Power supply may vary. 60W Power supplies Post January 2011 have fixed 13.8v output and no spare output. PSU Chassis is now Earthed.

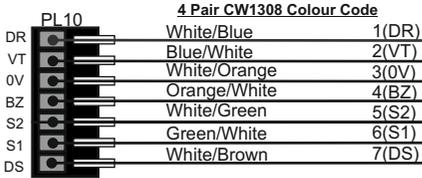


Note:-
Magnetic lock door contacts **CAN NOT** be used for ATG function as these locks now monitor power to the lock and not door status

Note A: Please note if system is to conform to Secured By Design standards then a 1A in-line fuse must be fitted here. Lock & trigger wires must not be routed via the door panel.

Please Note:-
FS is a none timed input and is suitable for Latching Fire switches such as the MEM type lever fire switch.

ED3+ ED4+ & RH3+ Wiring Schematic



Do Not Wire To EX With Spare Core(s)

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.

Any unused cores to be tied to system 0v.

ONLY USE CW1308 CABLE

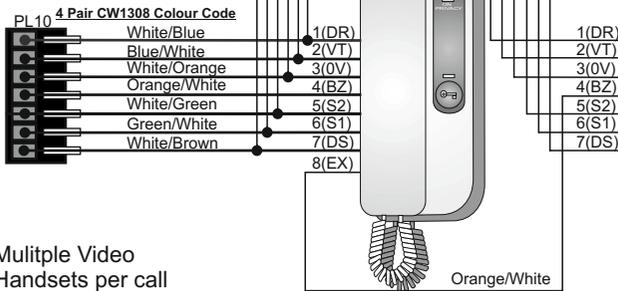
Entroview 300 / 400 Wiring Schematic



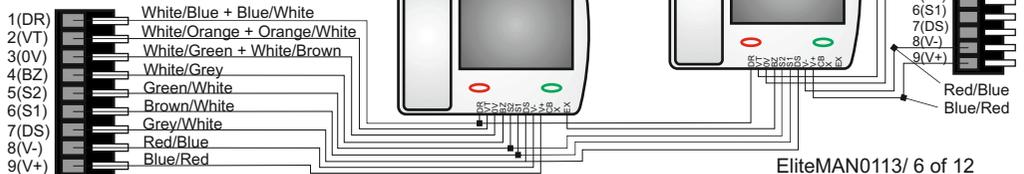
Note:- Spare Blue / White shown in 'DR' may be used to 'Double-Up' on VT or 0V if needed.

EX To Extension Sounders/
Flashing Beacons ONLY

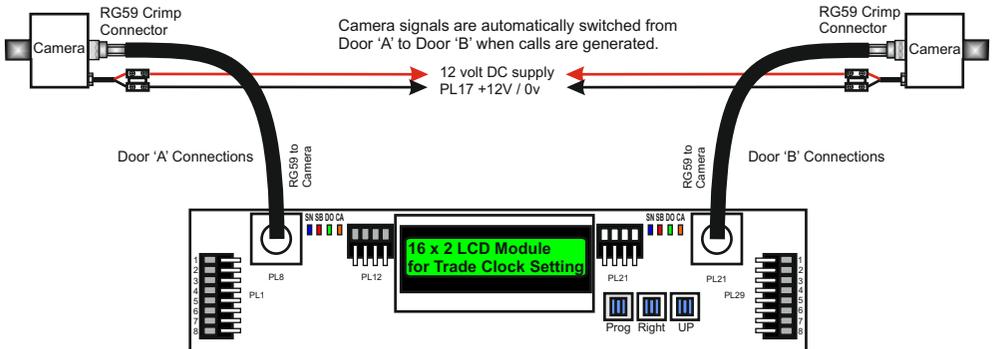
Multiple ED3+ ED4+ & RH3+ Wiring Schematic (up to 3).



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



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

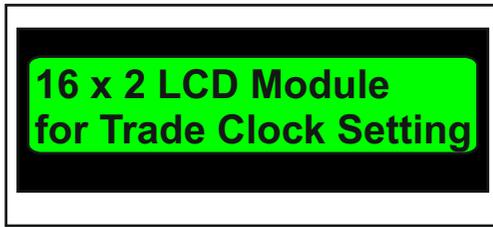


Preset Adjustments



- Speech Time:** Adjusts how long the user can talk for before the system resets. Adjustable between 10 seconds and 2 minutes.
- Callup Time:** Adjusts how long the system stays 'live' for once a call has been made. Adjustable between 10 seconds and 2 minutes.
- Call Tone Time:** Adjusts how long the call tone is emitted to the handsets and front panel. Adjustable between 1 second and 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 Lock Timer:** Adjusts the door open time period and should be adjusted to suit 'on-site' requirements. 1 to 30 Seconds
- Door B Lock Timer:** Adjusts the door open time period and should be adjusted to suit 'on-site' requirements. 1 to 30 Seconds

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



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
ENTROTEC
 Then time of day, nixon (next on period of timer) and the next on time as example below.

Note: When nixon displays 00:00 :-
 Next on period is during subsequent day.



Features:

- Up to 12 daily programmable on/off periods.
- Can be programmed by 5 day week (12 on/off periods).
- Can be programmed by week end (12 on/off periods).
- Can be programmed on an individual day basis (12 on/off periods).

To Edit time clock settings proceed as below:

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.

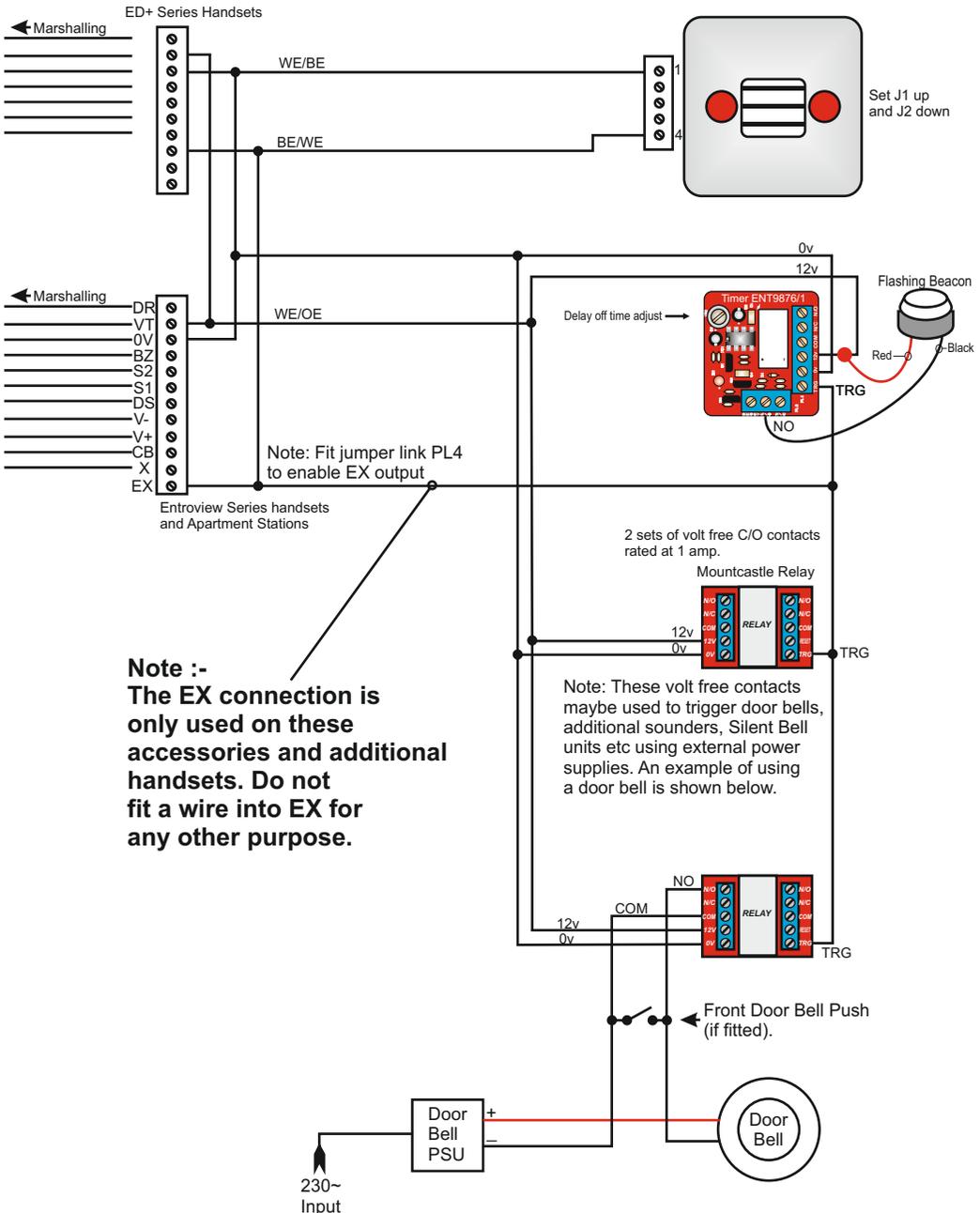
To Change the Daily (DLY) On & Off Times. Press the **Prog** button 6 times and **DLY 1** will be highlighted and it's condition i.e **On** or **Off**. To change the condition press the **Up** button. To adjust the time period first press the **Right** button to highlight either the hours or minutes 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.

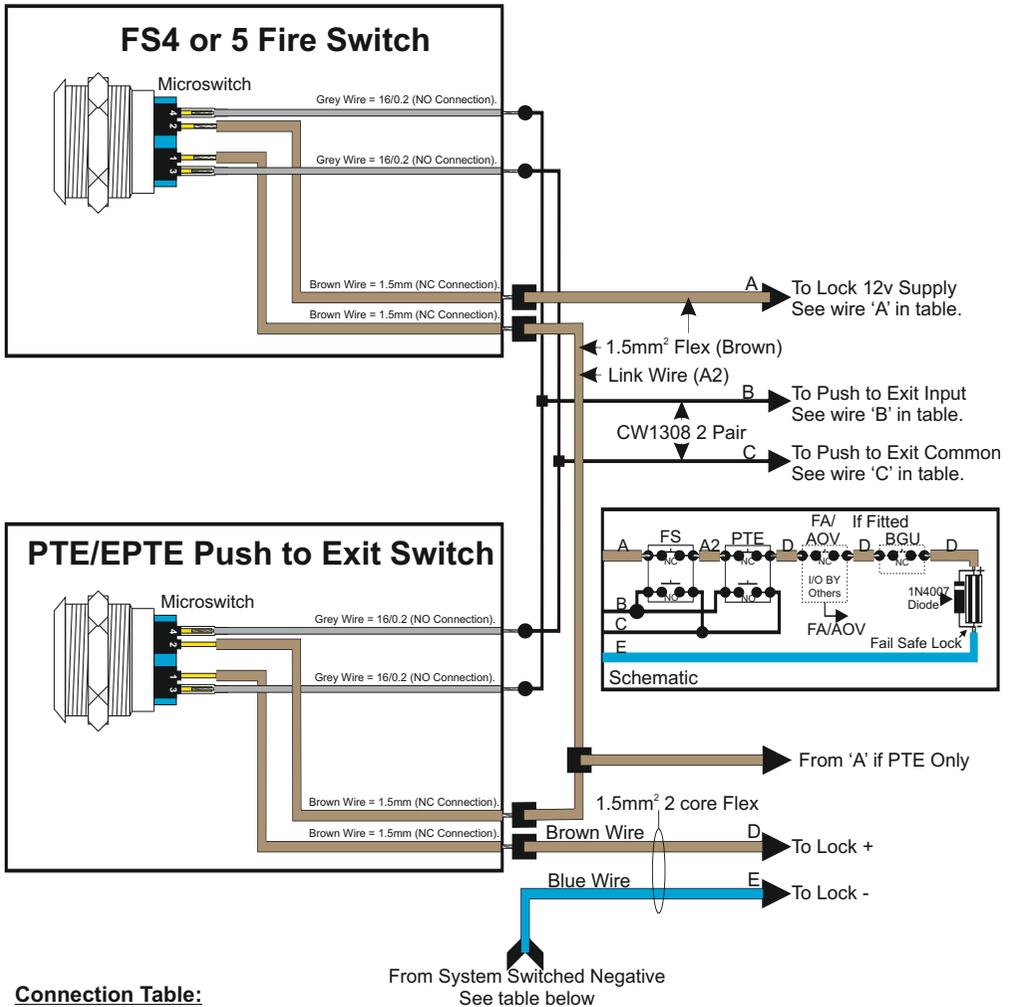
To Change the Individual Day (Mon) On & Off Times. Repeatedly press the **Prog** button until **MON 1** (or the appropriate day) will be highlighted and it's condition i.e **On** or **Off**. To change the condition press the **Up** button. To adjust the time period first press the **Right** button to 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.

Handset Auxiliary Equipment Connections.



Note :-
The EX connection is only used on these accessories and additional handsets. Do not fit a wire into EX for any other purpose.

FS4/5 & PTE/EPTE Wiring Diagram.

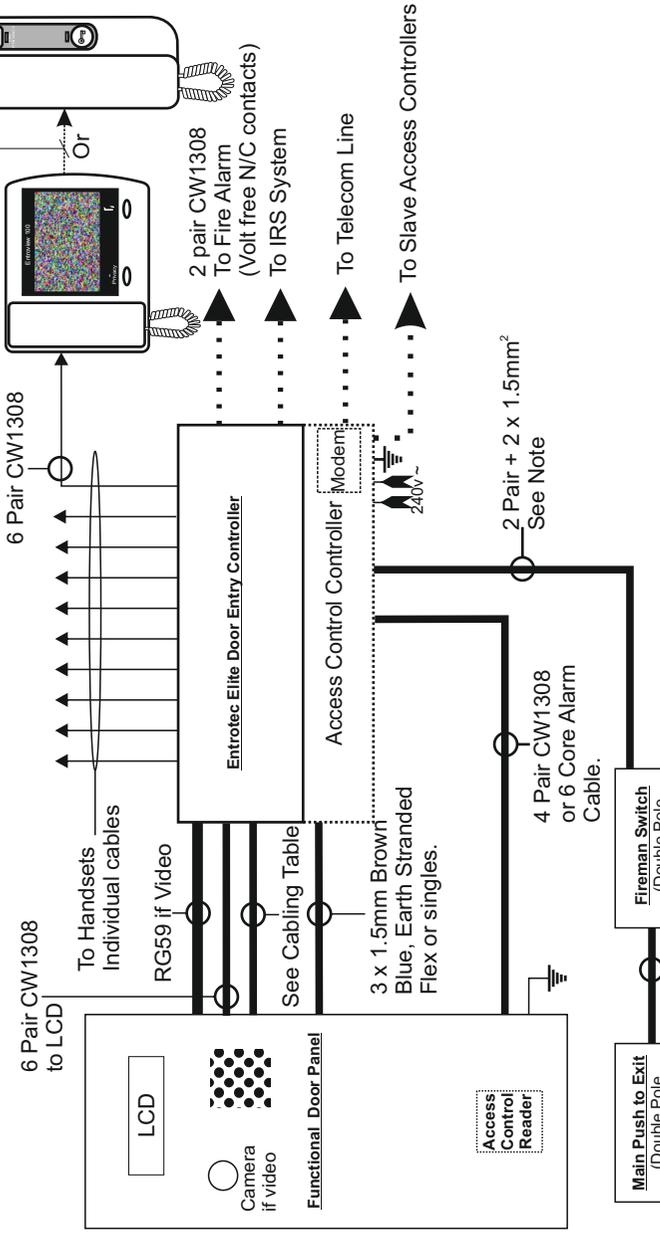


Connection Table:

Connection Terminal:	Apex DP	Elite Cont.	Entrocare DP	E100	E2000	KMS Simple Key	PAC 512
Wire A (Brown 1.5mm²)	PL1/12V	PL6/12V (PL28/12V)	PL1/12V	12V Lock	2/+12V	DC Out +	Access/Lock
Wire B (CW1308)	PL3/0V	PL5/C (PL33/C)	PL3/0V	Door1 0V (Door2 0v)	11/GND	GND 1 (GND 2)	Door 1 0V (Door 2 0V)
Wire C (CW1308)	PL3/PE	PL5/PE (PL33/PE)	PL3/PE	Door1REX (Door2REX)	9/OL1 (10/OL2)	RTE 1 (RTE 2)	Door 1 RTE (Door 2 RTE)
Wire D (Brown 1.5mm²)	Lock + or BGV	Lock + or BGV	Lock + or BGV	Lock + or BGV	Lock + or BGV	Lock + or BGV	Lock + or BGV
Wire E (Blue 1.5mm²)	PL1/NC	PL6/NC (PL28/NC)	PL1/NC	Door1 NC Relay (Door2 NC)	31/N/C (34/N/C)	Door Lock1 NC (Door Lock 2 NC)	Lock 1 NC (Lock 2 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).

Typical Elite Functional Main Entrance Door Schematic



Cabling Table

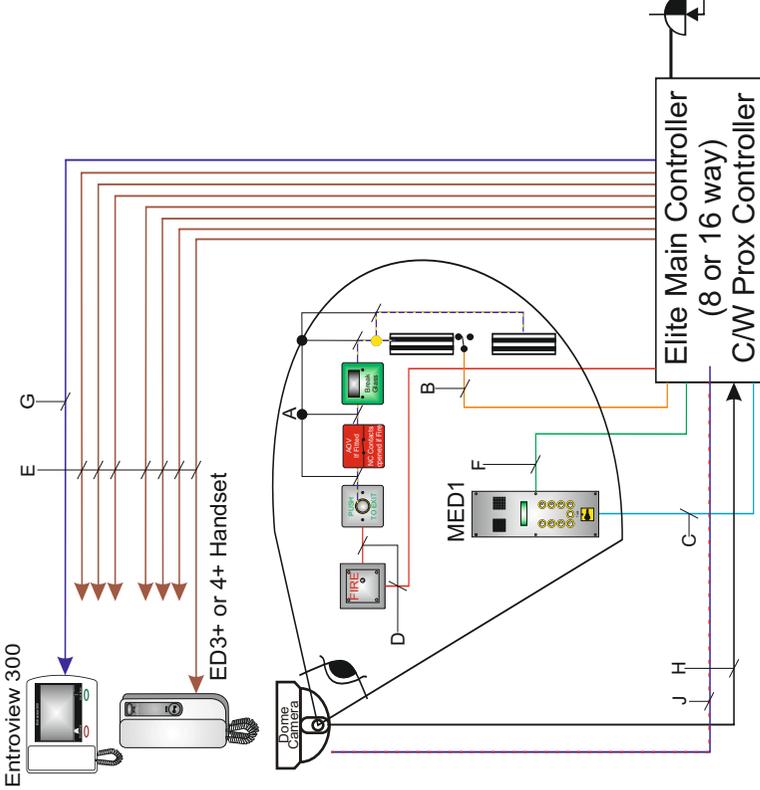
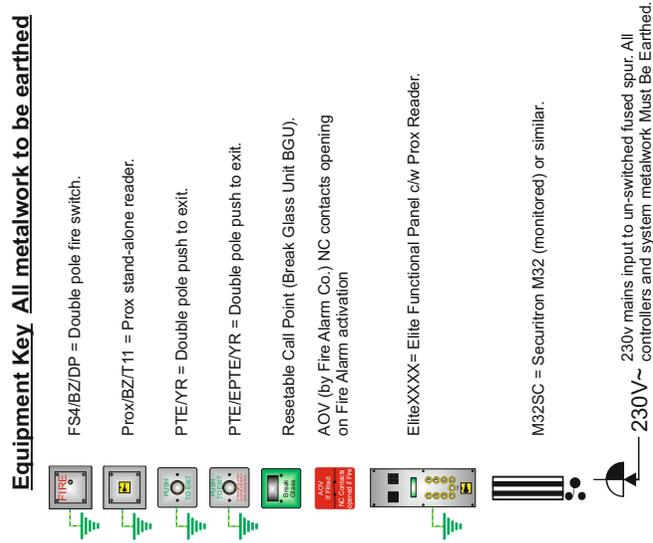
VRP01S - VRP05S = 4 & 6 Pair CW1308
 VRP06S (7) - VRP12S = 8 & 6 Pair CW1308
 VRP13S (14) - VRP16S = 10 & 6 Pair CW1308

These cable amounts are minimum reqd.

Add RG59B cable if video is required from camera to controller + 2 core 0.75mm² flex

Access control reader cables must be run separately and in accordance with manufacturers recommendations.

Equipment Key All metalwork to be earthed



Wiring Key

- A = 2 cores 1.5mm² Flex to Magnetic Locks.
- B = 2 Pair CW1308 to Magnetic Lock Contacts.
- C = 3 Pair CW1308 to Prox Readers.
- D = 3 Pair CW1308 + 2 core 1.5mm² Flex to PTE, FS & magnetic locks (Lock 12VDC Supply).
- E = 4 Pair CW1308 to Audio Handsets.
- F = CW1308 to door panel (See table for no.of cores) + 1 x 6 Pair for LCD
- G = 6 Pair CW1308 to video handsets (for apartment stations use 8 or 10 pair).
- H = 1 core RG59 from panel or dome camera.
- J = 2 core 0.75mm² flex (12VDC) for camera power.

IF Dual Entrance repeat for Door 2



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