PRODUCT INSTRUCTIONS

Fire Door Control Panel (FDCP)

Floats Rd, Wythenshawe,
Manchester. M23 9WB
T: +44 (0)161 945 4561
F: +44 (0)161 945 4566

Stock Code	Description	Doc No:	PI-115
00133 00134	Ellard Fire Door Control Panel Ellard Slave Repeater Unit	Iss:	1

FDCP V.1

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1) Specification and Installation

General	
Power Supply	230v - 50Hz
Max Motor Load	6.3A @ 230v
Max Accessories Load	4A @ 24v d.c
Working Temp	-20 to +70°C
Protection Fuses	Ext 24v d.c: F1 = T4A, Delayed Mains: F2 = T200mA, Delayed Relays: F3 = T6.3A, Delayed
Batteries	2 x 12V 1.3Ah
Dimensions (mm)	236 (w) x 286 (h) x 108 (h)
Weight (Kg)	3.0

Standards and Conformity	
The FDCP complies to the following EMC and Low Voltage standards and directives	
EMC Directive:	Directive 2004/108/EC
Low Voltage Requirements:	Directive 2006/95/EC
and In association with:	EN 60204-1: 2006+A1: 2009 EN 61000-6-1: 2007 EN 61000-6-2: 2005 EN 61000-6-3: 2007+A1: 2011 EN 61000-6-4: 2007+A1: 2011 EN 12453:2001 EN 50272-2: 2001

Mounting

Mount the unit using the fixing holes provided (see Fig 1.1)

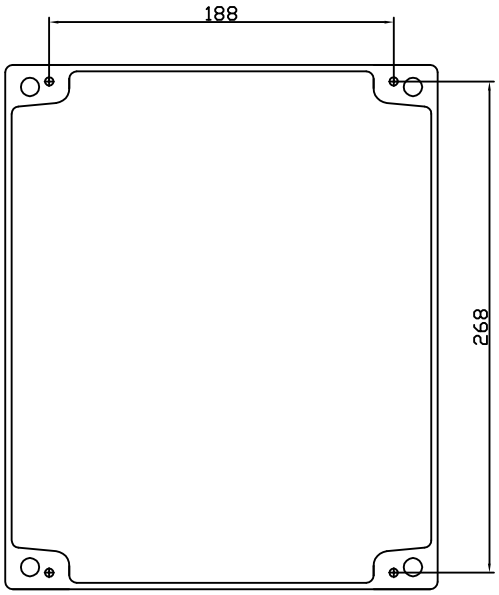


Fig 1.1
Enclosure Mounting

Cable Entry

The **FDCP** is designed so the cable entry can be positioned at the top or bottom of the panel by means of removing the PCB fixing screws, then rotating either board or box 180° and refitting *(see Fig 1.2)*

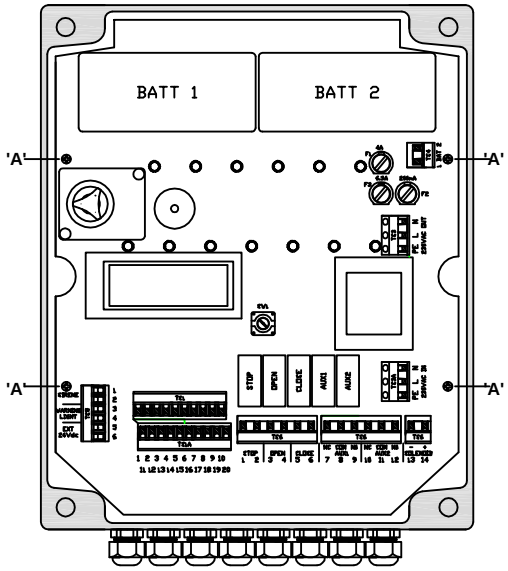
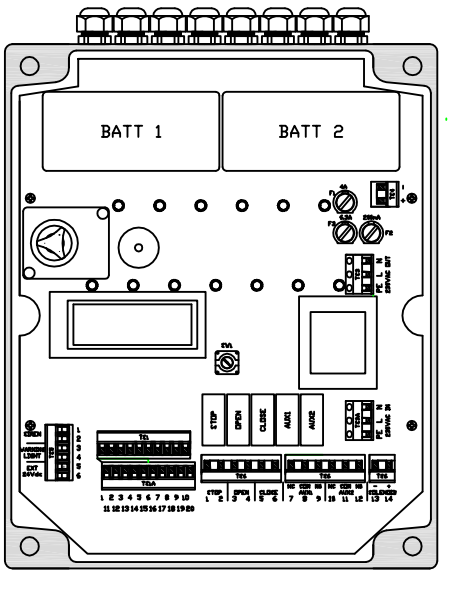


Fig 1.2
Cable entry positions
Remove fixing screws 'A' and rotate board or box



BOTTOM CABLE ENTRY

TOP CABLE ENTRY

FDCP v.1 (Software Ver 06)

Multi Function Control System for Roller Shutters and Smoke curtains

Features

- Large visual warning 'FIRE SHUTTER CLOSING' and 102 dB sounder
- Internal easy read display
- Easy to program using the 'intelligent' dial
- Built in batteries to maintain fire signal activation, and to operated a 24v brake release device in the even of a power failure
- Select able fire signal - Normally Open (N/O) or Normally Closed (N/C) volt free potential (Dry contact) or 2 -30V d.c direct input
- Low Voltage external push button control
- 3 closing options - Solenoid Only, Power Closing or 2 Stage Drop
- Programmable relays
- Automatic reset and optional opening once the fire signal is removed
- Panic Button option for emergency escape
- Complies with latest EU Directives
- Fully CE compliant

Application

- Whilst maintaining the function of every day use the FDCP gives advanced warning in the event of a fire before closing the shutter or curtain, protecting both personnel and property from the effects of smoke and fire
- Built in comprehensive diagnostics which include mains fail and low battery charge
- Can be fully interfaced with building management systems

Installation

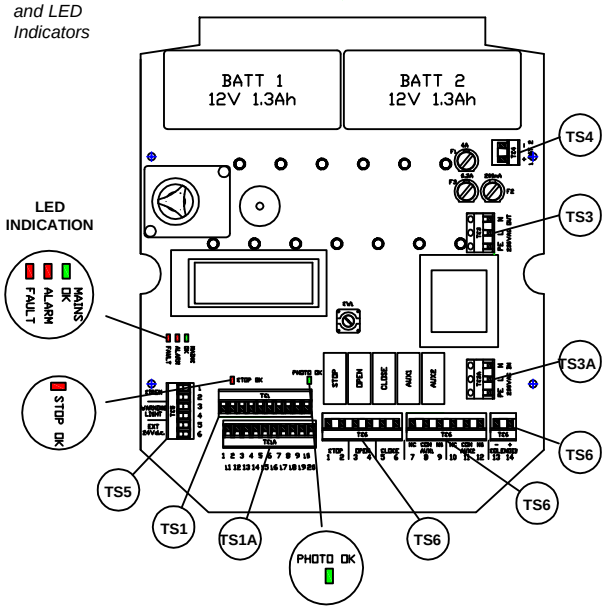
- The enclosure should be mounted vertically and secured using the provided fixing holes (see fig 1.1)
- Consideration must be given to the incoming cables and the panel rotated accordingly to give top or bottom entry (see fig 1.2)
- To protect both motor and personnel, this product must be connected to a suitable **EARTH** point
- All electrical work should be undertaken by a suitable competent person

2) Connections and Indication

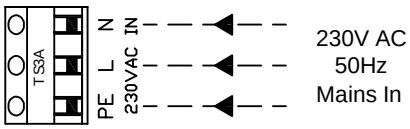
Indication		
Mains ok	GREEN	Automatic when mains power applied
Alarm	RED	Switched on when Alarm Signal applied
Fault	RED	Switched on when a fault has occurred (see display message for more information)
Stop ok	RED	On if Stop circuit - ok
Photo ok	GREEN	On if Photo Beam circuit - ok

Connection - TS1	
1	Zone 1 - Main Fire signal *+24v d.c (+)*
2	Zone 1 - Main Fire signal *+24v d.c (-)*
3 + 4	Zone 1 - Main Fire signal - *N/O, N/C, 8k2*
5	Zone 2 - Local Fire signal *+24v d.c (+)*
6	Zone 2 - Local Fire signal *+24v d.c (-)*
7 + 8	Zone 2 - Local Fire signal *N/O, N/C, 8k2*
9 + 10	Ext. 24v d.c. Supply (200mA Max)
Connection - TS1A	
11	Push Button - *COM*
12	Push Button - *STOP (N/C)*
13	Push Button - *OPEN (N/O)*
14	Push Button - *CLOSE (N/O)*
15 + 16	Panic Button - *(N/O)*
17	Photo Beam Supply - *(+24v)*
18	Photo Beam Supply - *(0V)*
19	Photo Beam Contact - (*COM)*
20	Photo Beam Contact - (*N/C)*
Connection - TS3A	
PE	Mains power supply - EARTH
L	Mains power supply - LIVE
N	Mains power supply - NEUTRAL
Connection - TS3	
PE	Mains power supply - EARTH
L	Mains power supply - LIVE
N	Mains power supply - NEUTRAL
Connection - TS4	
+	Battery (+)
-	Battery (-)
Connection - TS5	
1 + 2	Ext. Siren
3 + 4	Ext. Warning Light
5 + 6	Ext. 24v d.c
Connection - TS6	
1 + 2	Stop Relay *(N/C)*
3 + 4	Open Relay *(N/O)*
5 + 6	Close Relay *(N/O)*
7	Aux 1 Relay *(N/C)*
8	Aux 1 Relay *(COM)*
9	Aux 1 Relay *(N/O)*
10	Aux 2 Relay *(N/C)*
11	Aux 2 Relay *(COM)*
12	Aux 2 Relay *(N/O)*
13	Solenoid *(0V)*
14	Solenoid *(+24V)*

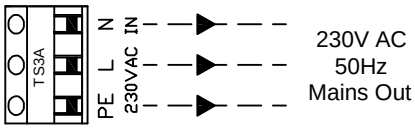
Terminal Block Positions and LED Indicators



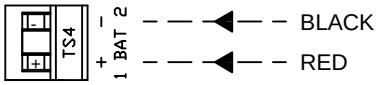
2.1) Mains Power - In (TS3A)



2.2) Mains Power - Out (TS3)



2.3) Battery (TS4)



2.4) Fire Signals (Connections and types)

2.4.1) Alarm Zone 1 - Main Fire Alarm Signal

Normally Open (N/O)
Triggers the panel by a N/O volt free signal which **CLOSES** when the fire alarm is activated
Note: an 8k2 resistor must be fitted across input connections

Normally Close (N/C)
Triggers the panel by a N/C volt free signal which **OPENS** when the fire alarm is activated

+24v d.c
Triggers the panel by removing a permanently connected +24v d.c fire signal when the fire alarm is activated

2.4.2) Alarm Zone 2 - Local Fire Alarm Signal

Normally Open (N/O)
Triggers the panel by a N/O volt free signal which **CLOSES** when the fire alarm is activated
Note: an 8k2 resistor must be fitted across input connections

Normally Close (N/C)
Triggers the panel by a N/C volt free signal which **OPENS** when the fire alarm is activated

+24v d.c
Triggers the panel by removing a permanently connected +24v d.c fire signal when the fire alarm is activated l

OFF
Disables Zone 2 Input

Fig 1. Activation by a N/O Fire Signal (select Normally Open)

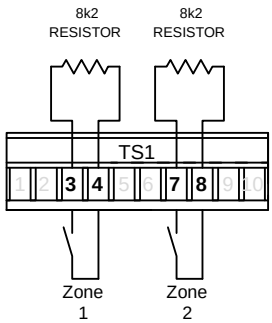


Fig 2. Activation by a N/C Fire Signal (Select Normally Closed)

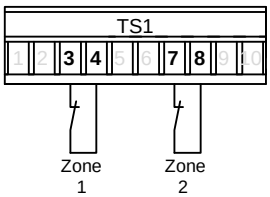


Fig 3. Activation by removal of a Permanent +24v d.c Fire Signal (Select +24V)

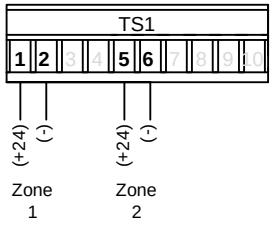
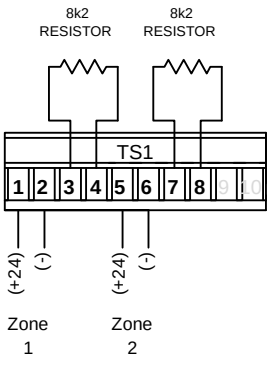
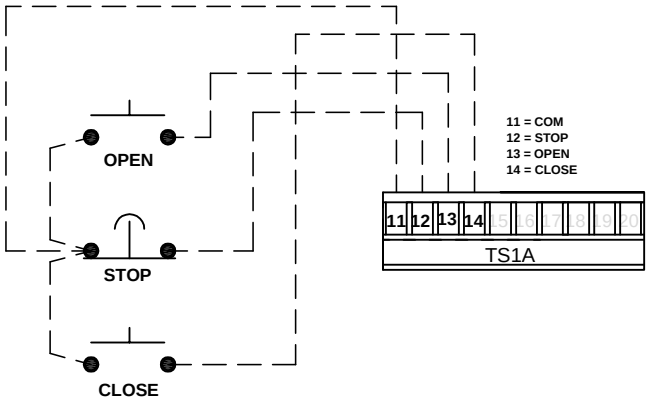


Fig 4. Activation by Applying a +24v d.c Fire Signal (Select N/O)



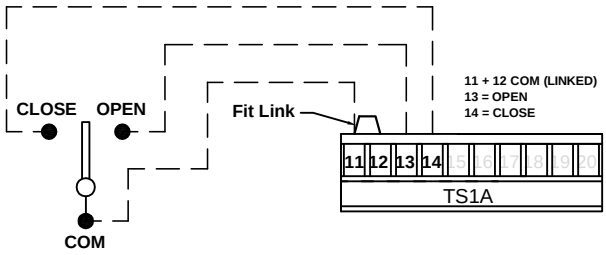
2.5) Push Button (optional)

Connection of a typical 3 push button station to operate the door under normal conditions



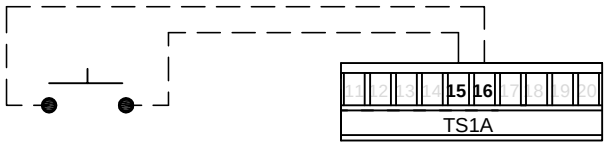
2.6) Key Switch (optional)

Connection of a typical keyswitch to operate the door under normal condition



2.7) Panic Button (optional)

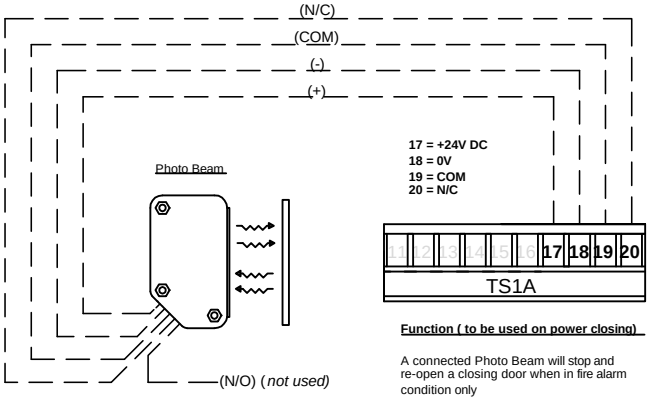
Connection of a **normally open** panic button to re-open the door under an emergency to 75% of full close time



(Always active on power and 2 stage closing)

2.8) Photo Beam (optional - see programming)

Stops and re-opens a closing door for a pre-determined number of operations in fire condition



Typical Reflective photocell (style and wiring colours may vary)

Function (to be used on power closing)

A connected Photo Beam will stop and re-open a closing door when in fire alarm condition only
It is programmed for a pre-set number of attempts to close the shutter if the beam is broken
On the final attempt the Photo Beam will ignore any furtehr obstrutions and close the shutter as far as possible

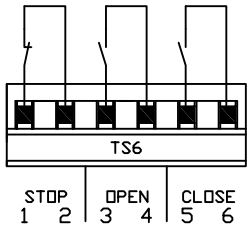
2.9) Relays Outputs

The unit is fitted with individual relays to provide different functions as required
All contacts are at a volt free potential (dry contact) and are rated at 230v AC 16A

STOP - Relay (1 + 2)
A **Normally Closed** contact that will open circuit when the **Stop** button is pressed
(Disabled on receipt of a Fire signal)

OPEN - Relay (3 + 4)
A **Normally Open** contact that will provide a closed circuit when the **Open** button is pressed
(Disabled) on receipt of a Fire signal)

CLOSE - Relay (5 + 6)
A **Normally Open** contact that will provide a closed circuit when the **Close** button is pressed
(Disabled) on receipt of a Fire signal)

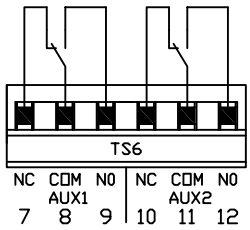


AUX 1 - Relay (7, 8, 9)

A **Normally Closed** Relay that will change state when activated
Relay is only switched upon receipt of a fire signal

AUX 2 - Relay (10, 11, 12)

A **Normally Closed** Relay that will change state when activated
Relay is programmable to simulate other relays or switch upon Low Battery power or Mains Fail

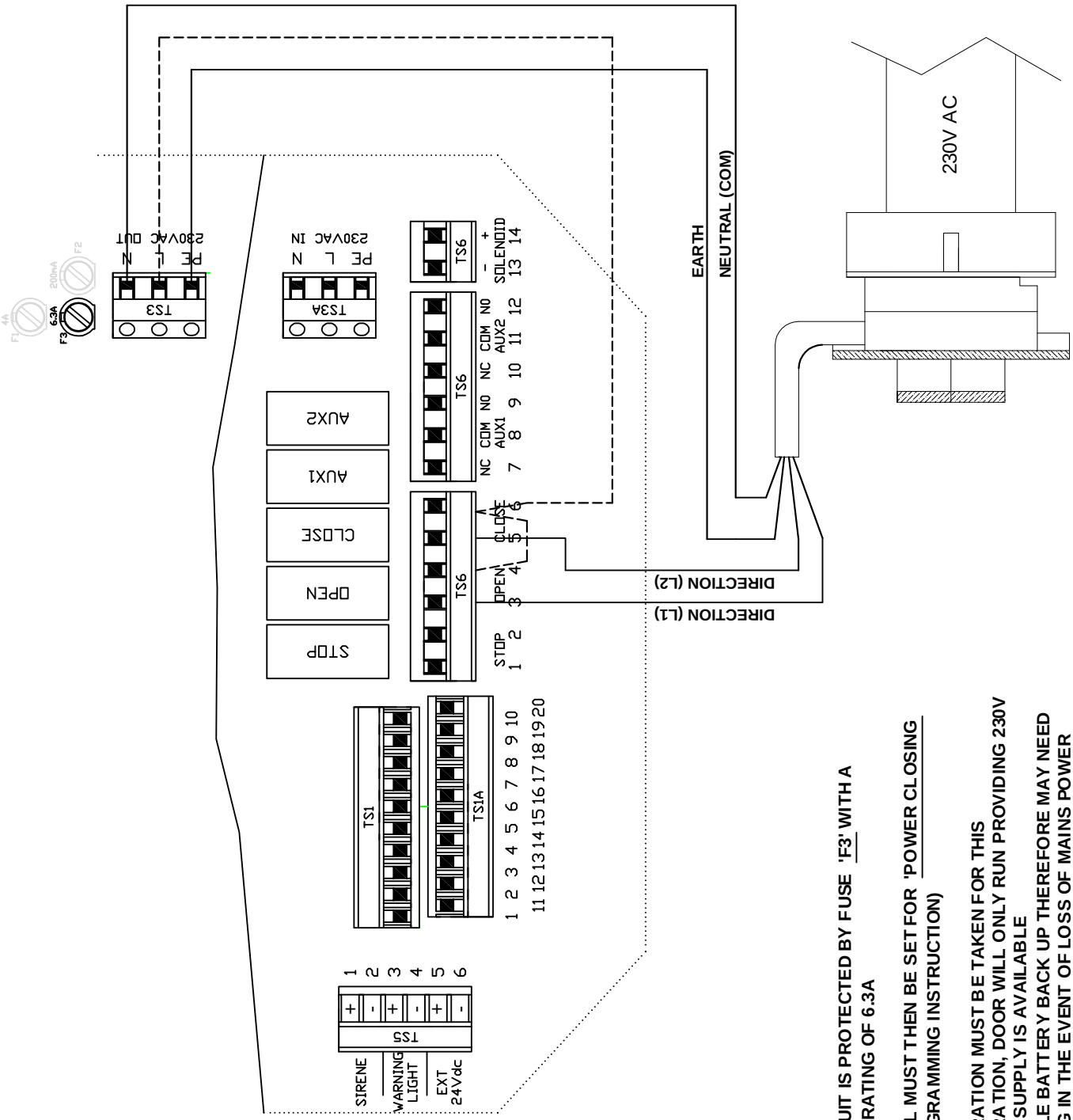


2.10) 24v d.c Solenoid Output

A brake release device or solenoid unit can be activated when connected to the output provided
This output can operate a brake release unit rated at 24v d.c

3.1 Typical Connection for 230v AC Tubular Motors

(Use with "Power Closing" or "2 Stage Closing")



Note:

THIS CIRCUIT IS PROTECTED BY FUSE 'F3' WITH A MAXIMUM RATING OF 6.3A

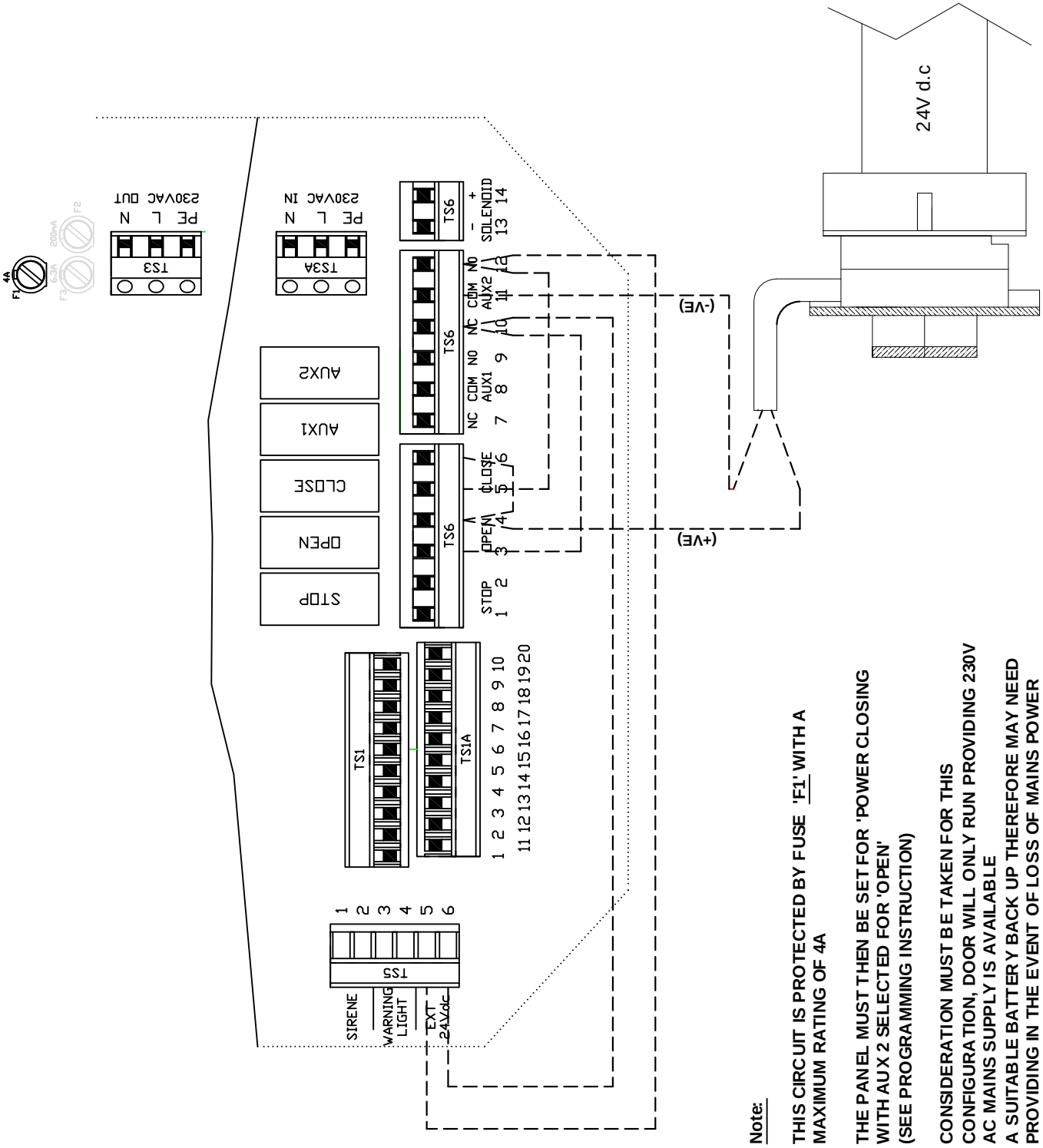
THE PANEL MUST THEN BE SET FOR 'POWER CLOSING (SEE PROGRAMMING INSTRUCTION)

CONSIDERATION MUST BE TAKEN FOR THIS CONFIGURATION, DOOR WILL ONLY RUN PROVIDING 230V AC MAINS SUPPLY IS AVAILABLE

A SUITABLE BATTERY BACK UP THEREFORE MAY NEED PROVIDING IN THE EVENT OF LOSS OF MAINS POWER

3.2 Typical Connection for 24v d.c Tubular motors

(Use with "Power Closing" or "2 Stage Closing")



Note:

THIS CIRCUIT IS PROTECTED BY FUSE 'F1' WITH A MAXIMUM RATING OF 4A

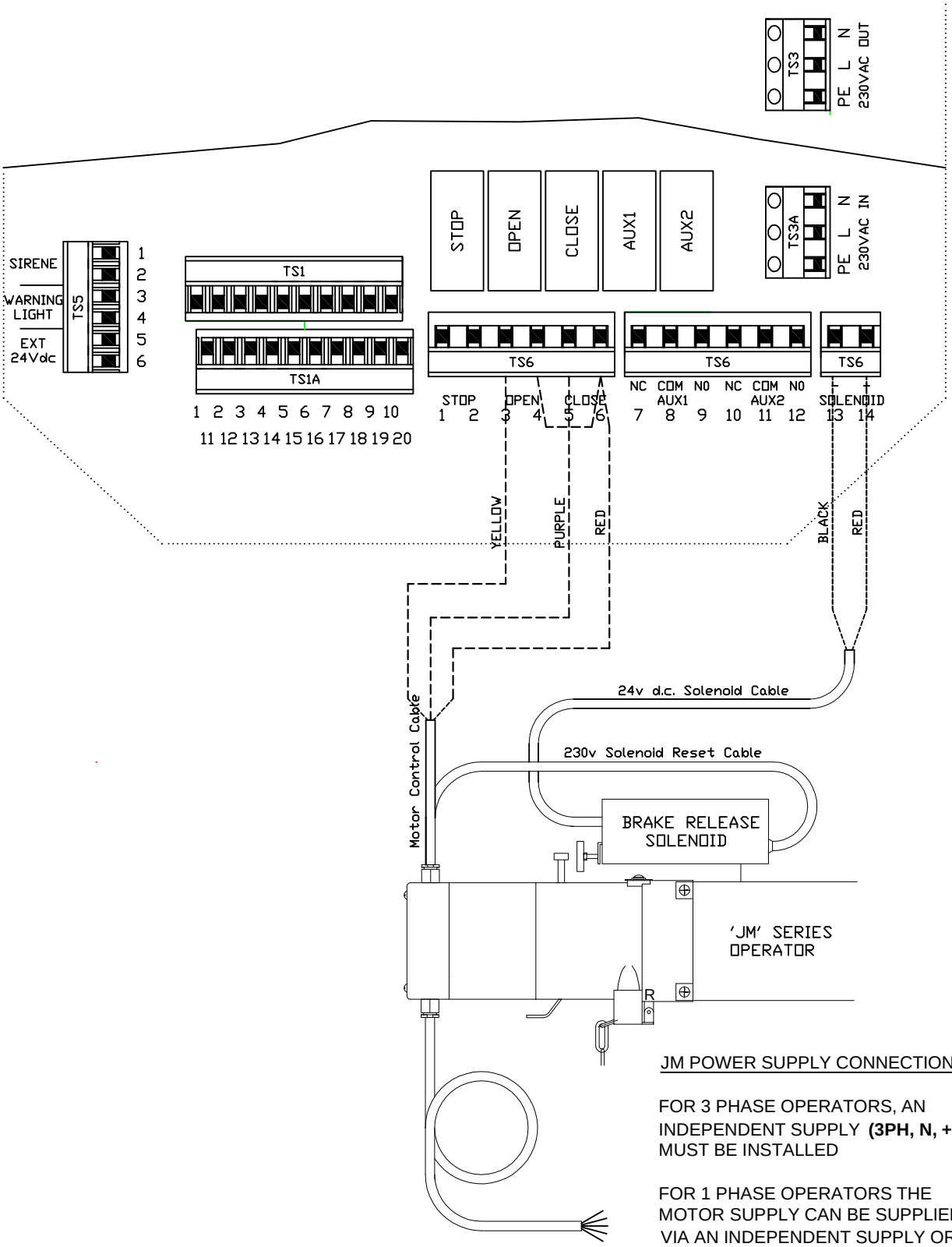
THE PANEL MUST THEN BE SET FOR 'POWER CLOSING WITH AUX 2 SELECTED FOR 'OPEN' (SEE PROGRAMMING INSTRUCTION)

CONSIDERATION MUST BE TAKEN FOR THIS CONFIGURATION, DOOR WILL ONLY RUN PROVIDING 230V AC MAINS SUPPLY IS AVAILABLE

A SUITABLE BATTERY BACK UP THEREFORE MAY NEED PROVIDING IN THE EVENT OF LOSS OF MAINS POWER

3.3 Connection for 'JM' series motors fitted with 24V DC brake release solenoid unit

(Use with "Power Closing" , "2 Stage Closing" and Solenoid Only")



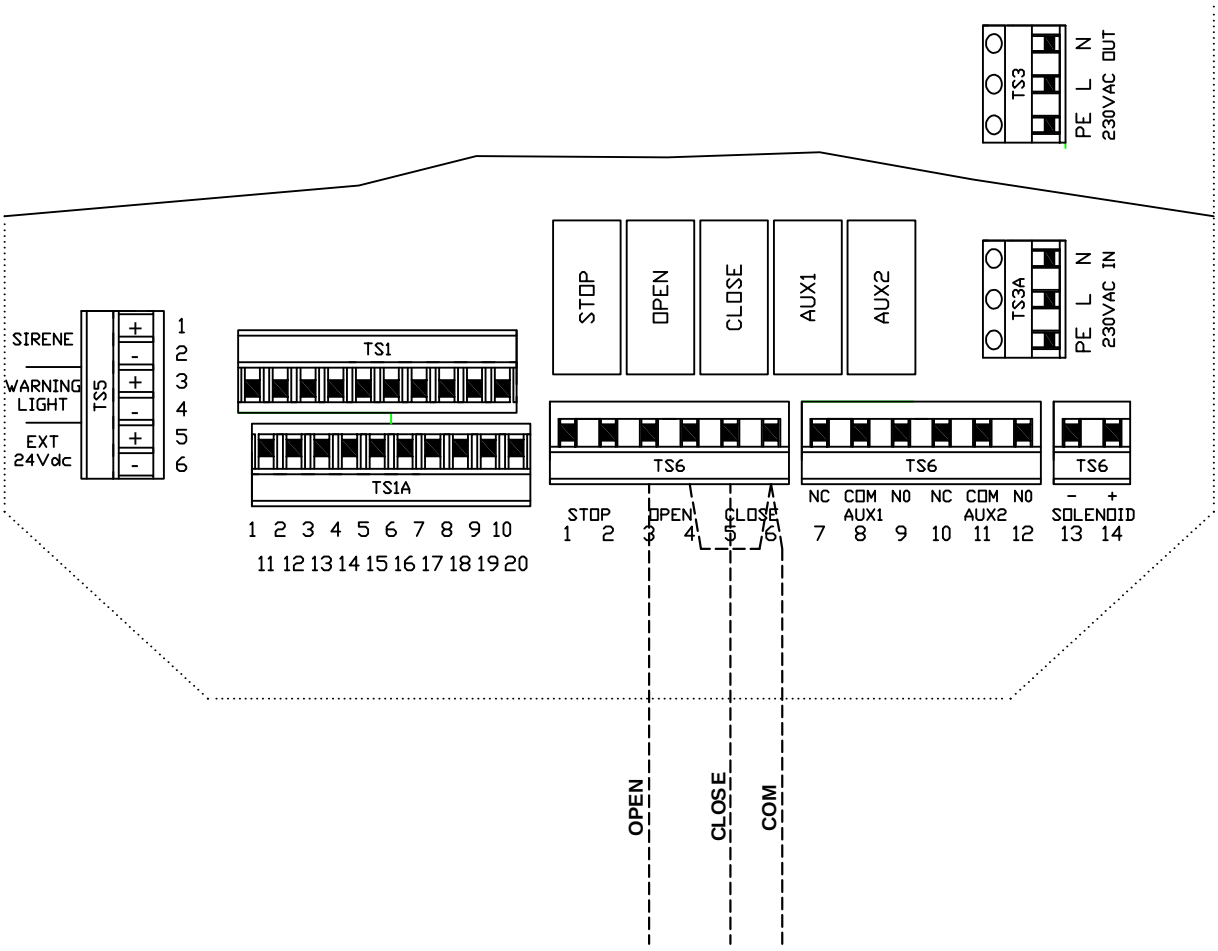
JM POWER SUPPLY CONNECTION

FOR 3 PHASE OPERATORS, AN INDEPENDENT SUPPLY **(3PH, N, + E)** MUST BE INSTALLED

FOR 1 PHASE OPERATORS THE MOTOR SUPPLY CAN BE SUPPLIED VIA AN INDEPENDENT SUPPLY OR TAKEN DIRECTLY FROM TERMINAL **TS3** - **PE, L, N**

3.4 Connection for other motors with built on controllers

(Use with "Power Closing" , "2 Stage Closing" and Solenoid Only")



VOLT FREE POTENTIAL OUT PUT TO DRIVE EXTERNAL CONTROLS OR OPERATORS FITTED WITH 'BUILT - ON' STARTERS

NOTES :-

OPERATOR POWER SUPPLY

3 PHASE OPERATORS MUST BE CONNECTED TO AN INDEPENDENT SUPPLY (3PH, N, + E) FITTED WITH SUITABLE FUSE PROTECTION

1 PHASE OPERATORS CAN BE CONNECTED TO AN INDEPENDENT SUPPLY FITTED WITH SUITABLE FUSE PROTECTION
OR TAKEN DIRECTLY FROM TERMINAL TS3 - PE, L, N

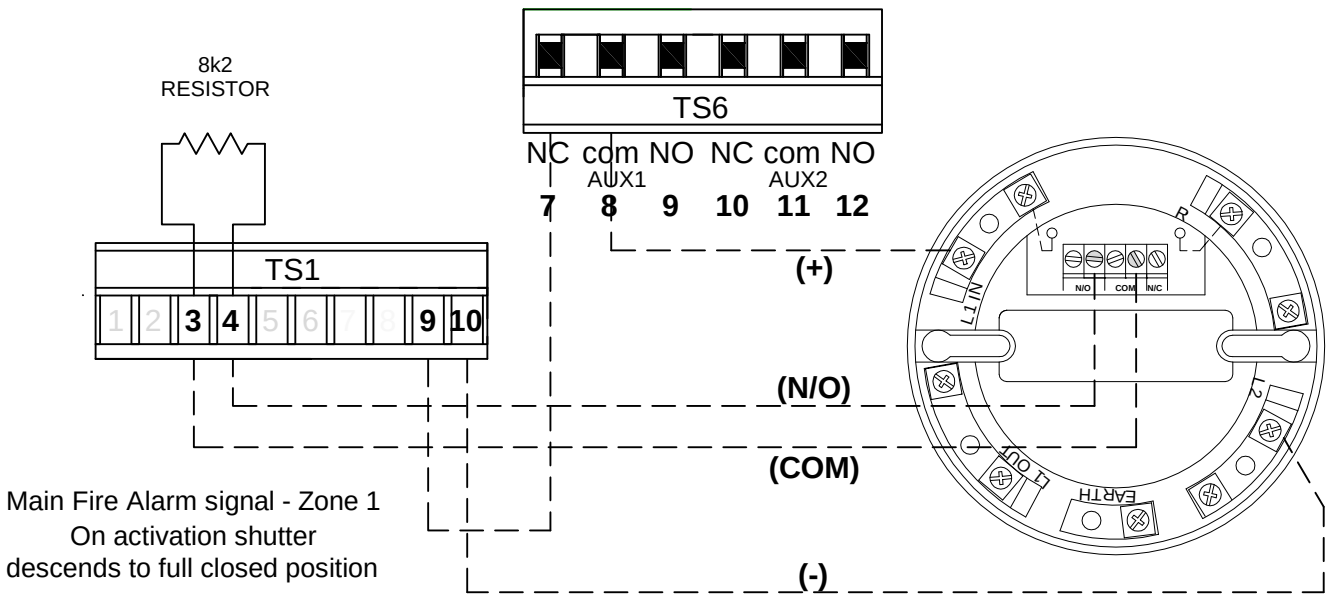
4. Typical Connection for
RELAY BASE Stand Alone Heat and Smoke Detectors

Relay Base
Supplier Apollo
Part No 45681-245 APO
Series 65 Relay Base
Ellard Stock code 04053

Smoke Detector Head
Series 65
Supplier - Apollo
Part No 55000-122 APO
Ellard Stock code 04052

Heat Detector Head
Series 65
Supplier - Apollo
Part No 55000-217 APO
Ellard Stock code 04061

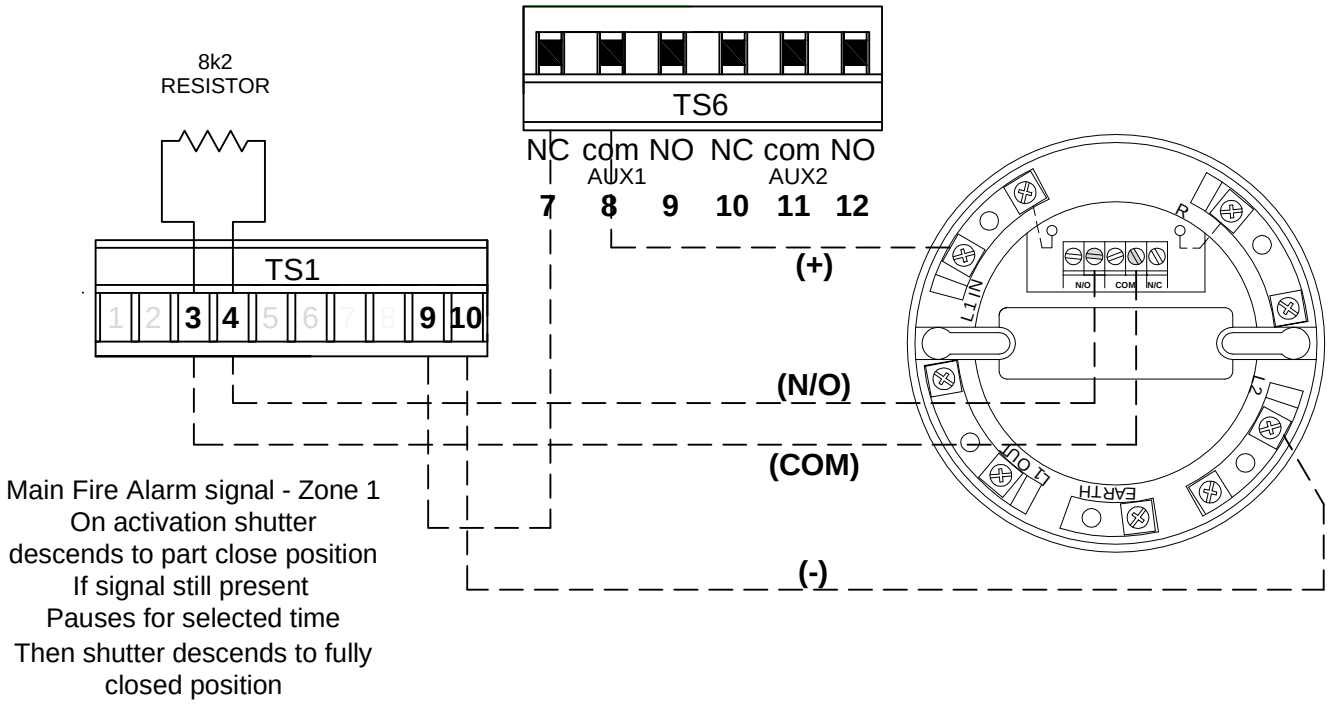
Program Choice = Solenoid Only or Power closing
Main activation using a Smoke/ Heat Detector with Relay Base
Signal = (Normally Open)



Program Choice = 2 Stage Closing

Main activation for 2 stage closing using a Smoke/ Heat Detector with Relay Base

(Signal shown = Normally Open)

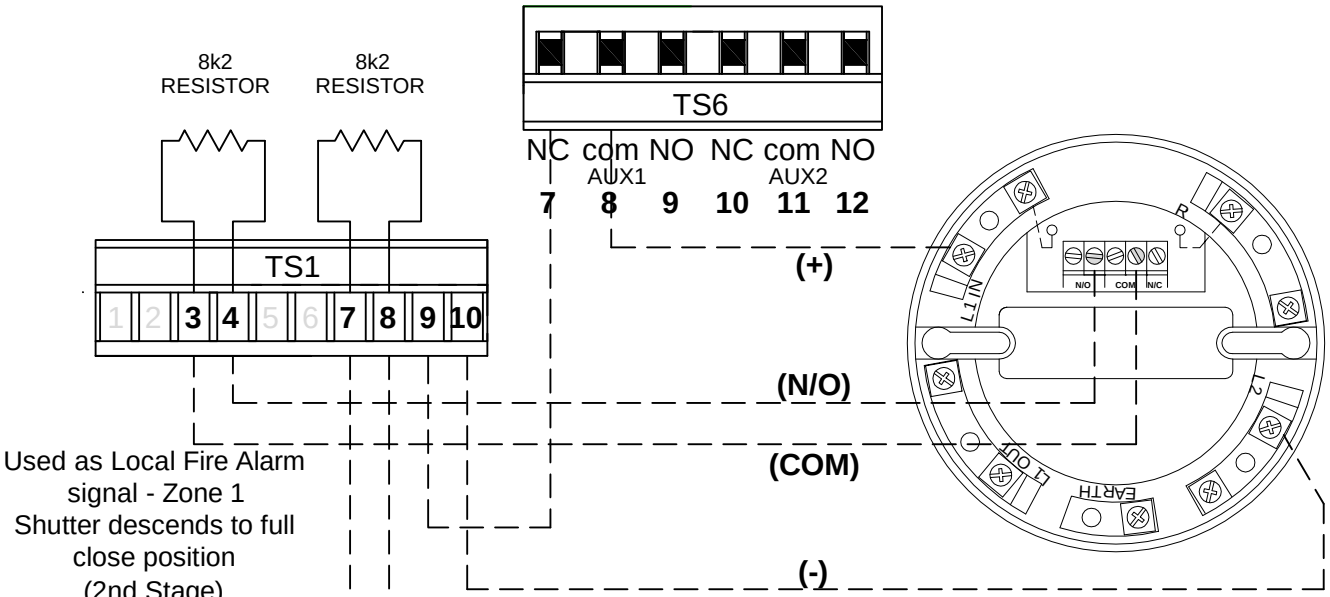


Main Fire Alarm signal - Zone 1
On activation shutter descends to part close position
If signal still present
Pauses for selected time
Then shutter descends to fully closed position

Program Choice = 2 Stage Closing

2nd stage activation using a Smoke/ Heat Detector with Relay Base

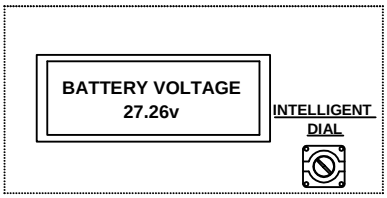
Signal Shown = Normally Open



Used as Local Fire Alarm signal - Zone 1
Shutter descends to full close position
(2nd Stage)

Main Fire Alarm signal - Zone 2
Shutter descends to part close position
(1st Stage)

5) Programming



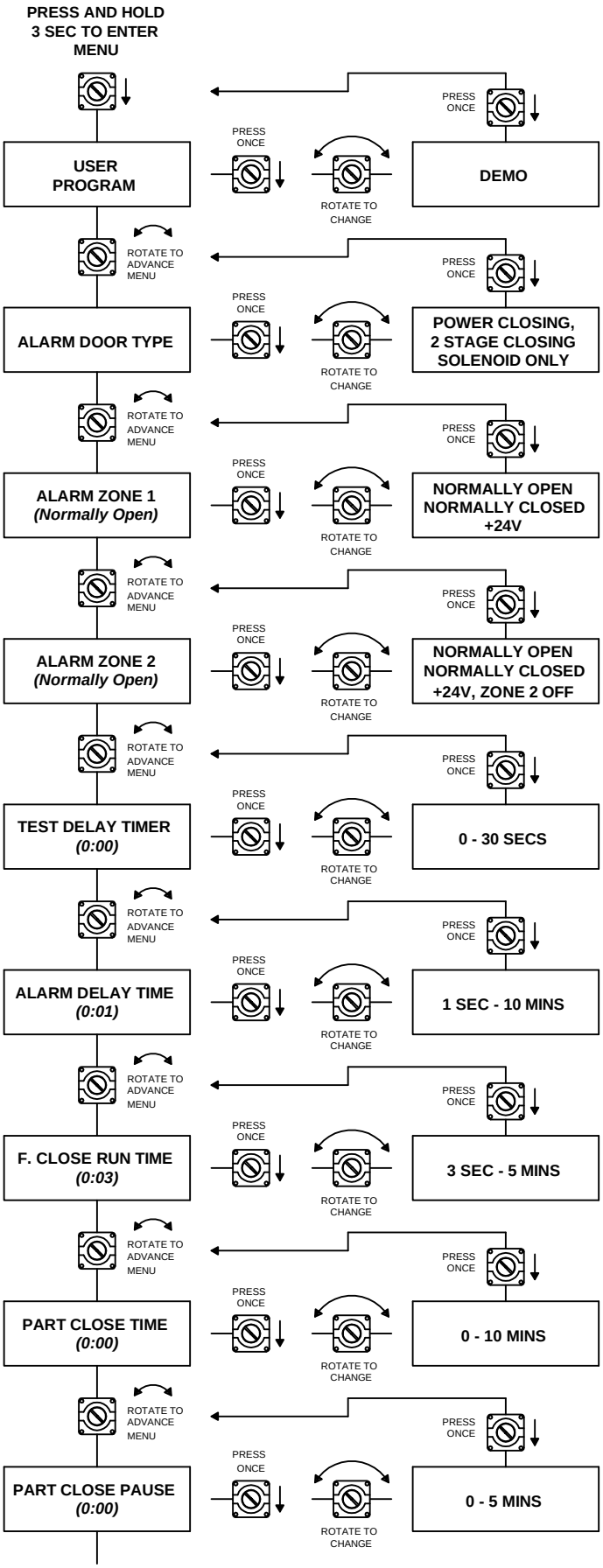
After installation the FDCP must be programmed to operate upon receipt of a fire signal, the shutter will close by the method selected in **'ALARM DOOR TYPE'**

To access set up, press and hold the 'Intelligent Dial' for 3 seconds, the display will change from battery condition to **USER** menu

To move through the features, rotate the 'Intelligent Dial'

To change a value within the feature press the 'Intelligent Dial' once - the display will flash, rotate to change, then press once to store

To **EXIT** set up at any time press and hold program button for 3 seconds



USER
Allows panel to be programmed with all audio / visual warnings active

DEMO
Allows panel to be programmed but disabling the sounder (for demonstration purposes)

ALARM DOOR TYPE
This is how the how the shutter will close upon receipt of a fire signal:
Power Closing *- Shutter Drives Down under mains power*
2 stage closing *- Shutter closes in 2 stages under mains power*
Solenoid only *- Shutter closes by a gravity controlled descent*

ALARM ZONE 1
*This is **Main** fire alarm input*
The panel will activate upon receipt of either of following signal types
N/O, N/C, +24v DC
(See content 2.4.1)

ALARM ZONE 2
*This is **Local** fire alarm input*
The panel will activate upon receipt of either of following signal types
N/O, N/C, +24v DC
(See content 2.4.2)

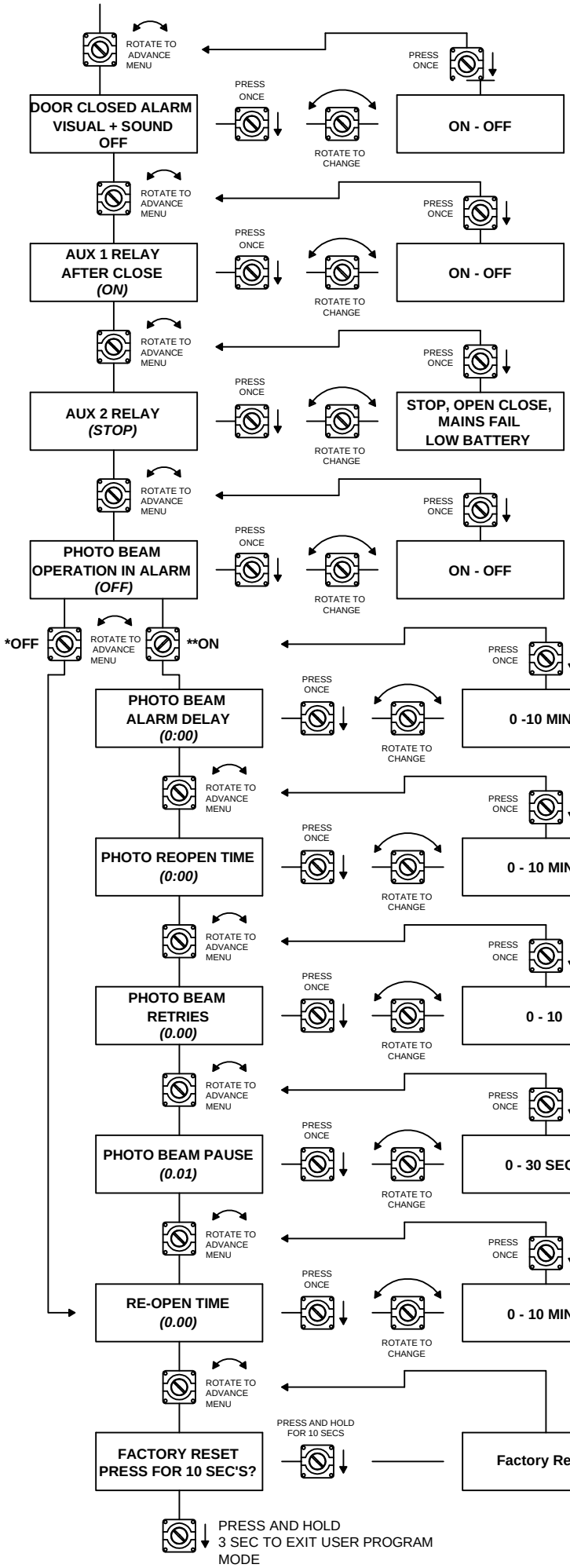
TEST DELAY TIMER
This automatically delays any shutter movement for the selected time
*Generally used for for **fire alarm test** purposes*
When the fire alarm is under test, the panel will sound and flash without fully activating the motor or break release device
Note: To prevent full activation of panel and shutter, the Fire alarm signal must be removed before the test delay time expires

ALARM DELAY TIME
*Upon receipt of a fire signal the panel will **sound and flash** for the selected time*
No shutter movement will be happen during this countdown period

F. CLOSE RUN TIME
This is the **total time** the shutter will take to run from **from fully open to fully close position**

PART CLOSE TIME (Only displayed if 2 stage closing selected)
This is the length of travel at the first stage of closing after the **Alarm Delay Time** has expired
The shutter will run for the selected time to a predetermined height, where upon it will **pause and wait** for activation from second or continuing signal
The Audio - Visual remains activated until all fire signals are removed, where upon the shutter can then be reopened manually or automatically if selected

PART CLOSE PAUSE (Only available if 2 stage closing selected)
This is the pause time after the shutter has driven to its first stage
The **Audio Visual will continue** until receipt of a second or continuing signal
No shutter movement will be happen during this countdown period
Should all fire signals be removed the audio visual will cease and shutter can then be reopened



DOOR CLOSED ALARM - VISUAL AND SOUND

- With the shutter fully closed and the fire alarm signal still present, the Audio Visual warning can either continue or be switched OFF

AUX 1 (AFTER CLOSE)

- This relay is only switched ON, upon receipt of a fire signal
  With the shutter fully closed and the fire alarm signal still present, Aux 1 can either remain ON or be switched OFF

AUX 2

- This relay is switched in both normal and fire condition, and will simulate any other another relay or be activate depending on its selected function
  In Fire condition the STOP relay is disabled

PHOTO BEAM OPERATION IN ALARM
(Feature disabled in SOLENOID ONLY mode)

- Enables a connected photocell to stop and reopen a closing door when the beam is broken
  Only Active in fire condition and when turned ON in menu

PHOTO BEAM ALARM DELAY
(Feature disabled in SOLENOID ONLY mode)

- Should the photo beam become obstructed an audible obstruction warning will sound after a selected time

PHOTO REOPEN TIME
(Feature disabled in SOLENOID ONLY mode)

- Upon breaking the photo beam the door will stop and reopen for the selected time
  This is typically set for the same time as **F.Close Run time**

PHOTO BEAM RETRIES
(Feature disabled in SOLENOID ONLY mode)

Should the photo beam become triggered, the shutter will stop then reopen for the time set in **PHOTO REOPEN TIME**
If the photo beam remains blocked another attempt will be made to close the shutter, this will continue for the selected number of times
If the obstruction is removed before this count is reached, the shutter will continue and close
If on the final attempt the photo beam remains blocked, the photo beam will be ignored and the shutter will close as far as possible

PHOTO BEAM PAUSE
(Feature disabled in SOLENOID ONLY mode)

- This is the delay time before the next command is carried out after the photo beam has been broken

RE-OPEN TIME

- **Automatically reopens a closed shutter for the time selected upon removal of all active fire signals**

FACTORY RESET

- **Clears all previous selected times and then restores the unit back to factory default settings**
  This is done by pressing and holding the program button for 10 seconds

6) Repeater Panel Specification

General		
Power Supply	24v d.c.	
Working Temp	-20 to +70°C	
Dimensions (mm)	236 (w) x 286 (h) x 108 (h)	
Weight (Kg)	3.0	

Mounting

Mount the unit using the fixing holes provided (see Fig 1.1)

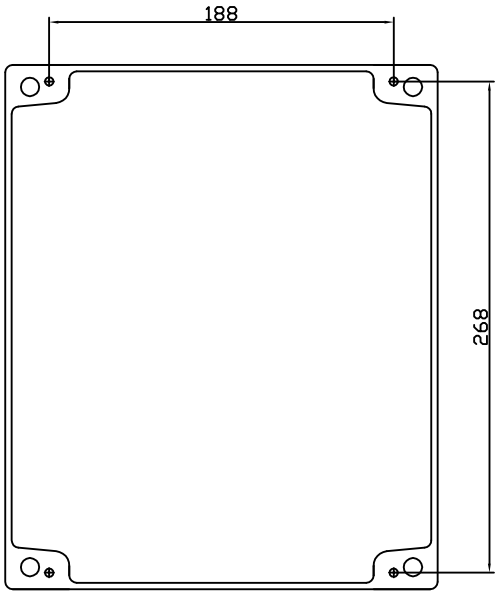


Fig 1.1
Enclosure Mounting

Cable Entry

The **FDCP Repeater Panel** is designed so the cable entry can be via the top or bottom of the panel by means of removing the PCB fixing screws, then rotating either board or box 180° and re-fitting *(see Fig 1.2)*

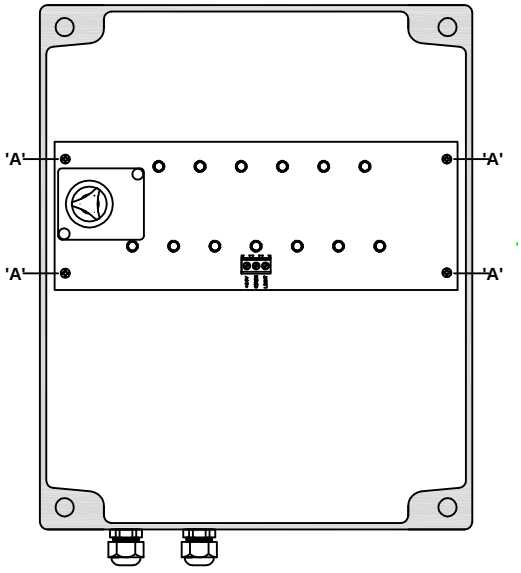
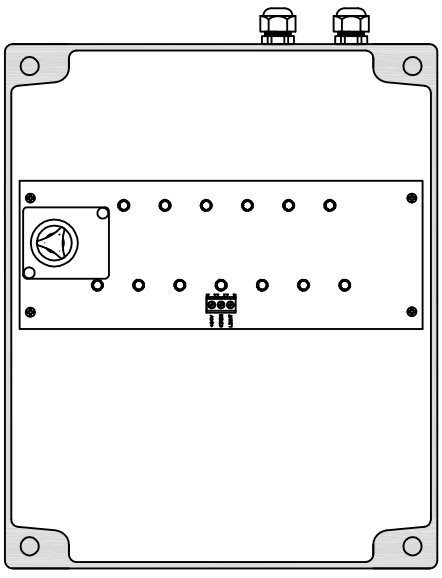


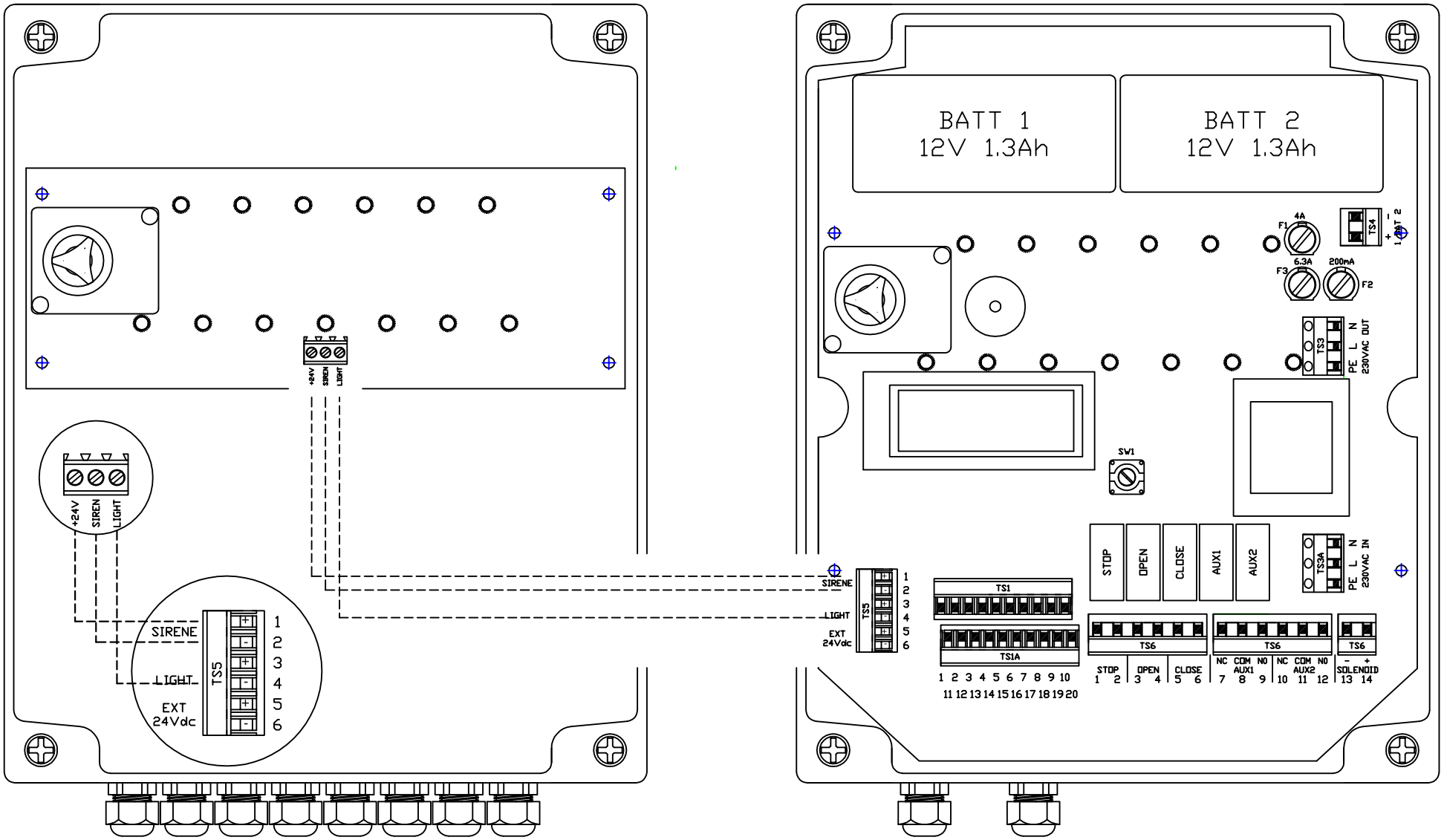
Fig 1.2
Cable entry positions
Remove fixing screws 'A' and rotate board or box

BOTTOM CABLE ENTRY

TOP CABLE ENTRY



TOP CABLE ENTRY



6.1 Connection detail for repeater panel

FDCP V.1
7. Troubleshooting Guide

Message shown in Display			Cause and possible solution
Alarm Zone 1			Input to ZONE 1 is activated - Check If Fire Alarm Signal is still present
Alarm Zone 2			Input to ZONE 2 is activated - Check If Fire Alarm Signal is still present
5v Regulator Fail			
Setup Fault Part close runt.			Part close run time is longer than full close run time **Full close runtime** must be longer than **Part close runtime**
EEPROM failure Service required			EEPROM parameter values have become changed, unaided from saved values (all values in EEPROM are checked on each power up) Try entering programming mode then exit back to normal mode again Switch off, disconnect batteries - reconnect batteries and power up again If problem persists replace the unit
Circuit fail Service required			**Photo Beam** inputs and **Fire Alarm** inputs are tested each hour in normal mode and after each manual operation of the door Check condition of these signals and that the programming set up is correct
Batt.Not Charged Check mains			Measured battery voltage is low. Check if mains supply is ok
Batt.test failed Replace batt			Battery load is tested 1.5 sec, 2mins after power up and then each 12 hours Check if battery is connected before powering up Battery has deteriorated
Photo Beam Break			Check for obstruction Check for allignment Check N/C circuit
Batt. Charger OFF Check mains			Check Mains supply
Batt. Info Batt. Voltage <24v			Battery not fully charged
Batt. Voltage xx.x Volt			This is not a fault - Battery voltage monitoring only
No Display			Check power supply Check batteries Check contrast pot is turned up
Panel or Fire Alarm will not function No Display or LED's present			Check unit has not been left in programming mode and that dispaly is showing battery voltage

LED Indication		
Mains ok	GREEN	Automatic when mains power applied
Alarm	RED	Switched on when Alarm Signal applied
Fault	RED	Switched on when a fault has occurred (see display message for more information)
Stop ok	RED	On if Stop circuit - ok
Photo ok	GREEN	On if Photo Beam circuit - ok

CE DECLARATION

CE

Declaration under sole responsibility that the door control units:

FDCP V.1

manufactured at and technical documentation:

DALMATIC A/S
LÆGÅRDSVEJ 9
DK-8520 LYSTRUP

- is in accordance with the following other EC Directives: **EMC Directive (Directive 2004/108/EC)** relating to electromagnetic compatibility.

- Low Voltage requirements **(Directive 2006/95/EC)** to electrical equipment intended for use within certain voltage limits.

Furthermore, it declared - that the following standards have been used:

EN 60204-1: 2006+A1:2009
EN 61000-6-1: 2007
EN 61000-6-2: 2005
EN 61000-6-3: 2007+A1:2011
EN 61000-6-4: 2007+A1:2011
EN 12453:2001 *
EN 50272-2:2001
EN 12101-10:2005
EN 14600: 2006 *

* Note that all mechanical parts and other connected electrical equipment must be declared to EN12453.

Responsible for technical documentation

Hans Hilmar Dall, Owner and director