

# Audio/Visual Fire Door Interface Panel User Guide

Model: EMC-3d

Stock Code: 40-1123

**WARNING!** Read these instructions **FULLY** before use.  
Installation should only be carried out by a **COMPETENT** installer.

External Dimensions: 370(w) x 140(h) x 101(d)



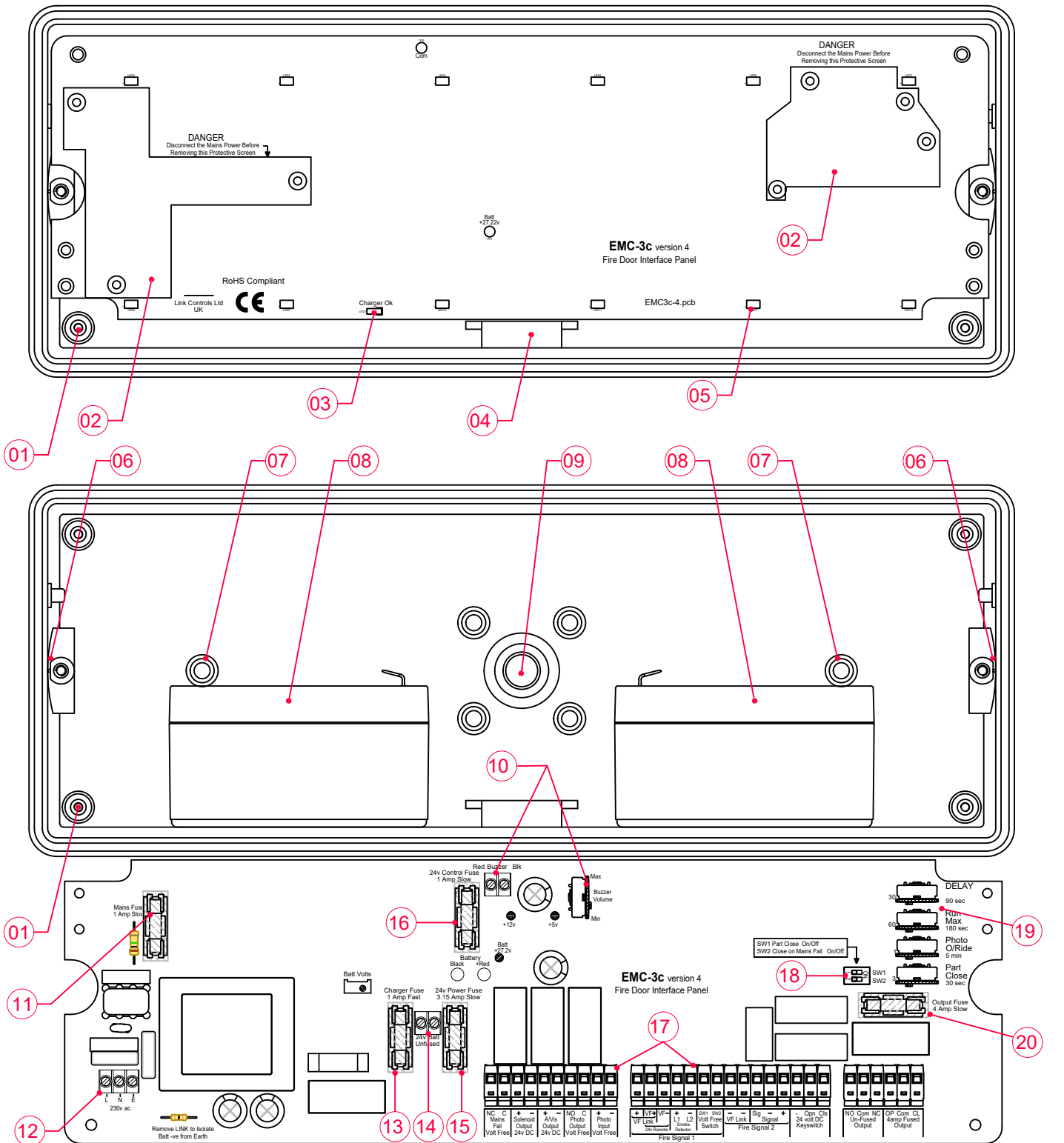
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Drawing No:- LC-2108	Page No:- 1 of 8
Revision No:- J	Rev Date:- 13/03/24
Drawn By:- R.A.H.	Date:- 16/02/01
Checked By:- M.T.	Appr' By:- J.C.



# External & Internal P.C.B. Features

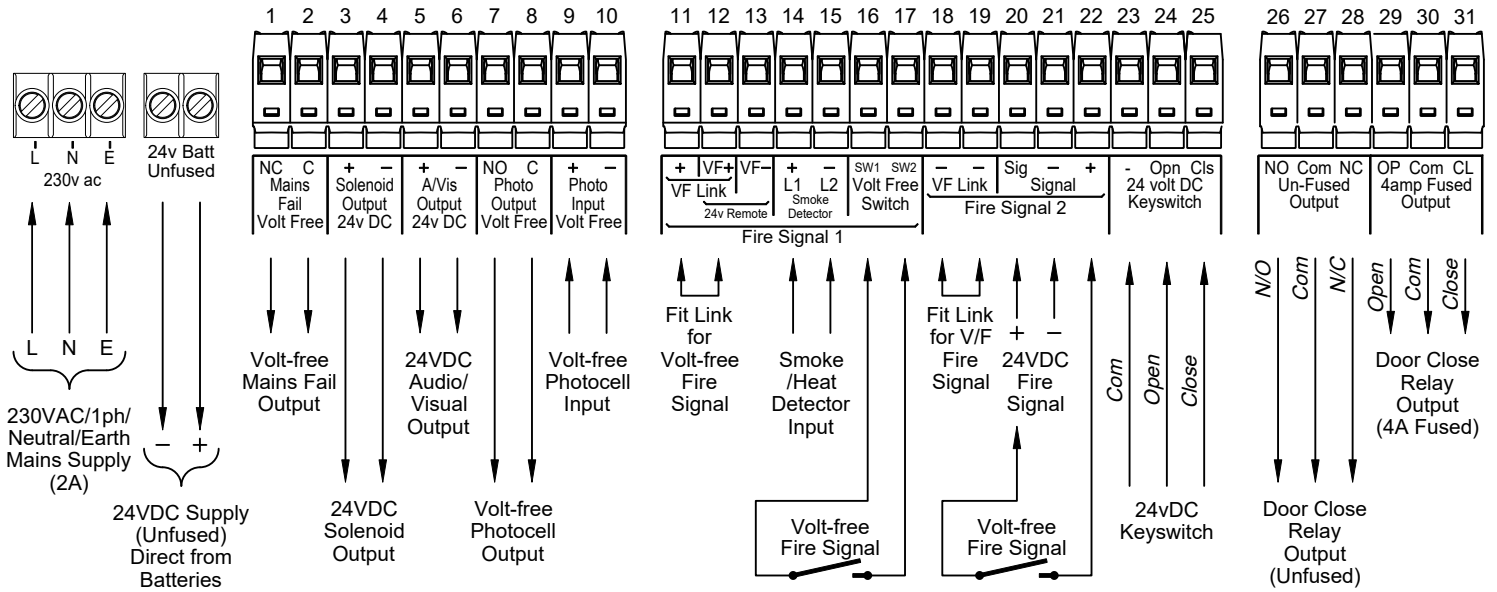


Key	Description	Key	Description
01	Printed Circuit Board Hinges	11	1A Mains Input Fuse
02	Protective mains insulation cover ( <b>DANGER!</b> Risk of electric shock if removed)	12	230VAC Mains Supply Terminals
03	Charge O.K. L.E.D.	13	1A Battery Charger Fuse
04	Sounder - If constant then check the fuses & that the battery voltage is within range (>20V...<28V)	14	24VDC (Unfused) Auxiliary Terminals
05	High Efficiency L.E.D.'s	15	3.15A 24VDC Fuse
06	Alternative Conduit/Cable entry positions	16	1A Control Fuse
07	Mounting Holes: 2 x Ø6.00mm Holes @ 240.00mm apart	17	Control Input/Output Terminals
08	2 x 1.2Ah 12VDC Batteries	18	Function D.I.L. Switches
09	Terminal Box Fixings (4 x Ø6.00mm Holes @ 36.00mm <sup>2</sup> apart)/Cable Entry Holes (Recommended)	19	Timer Selection Potentiometers
10	Sounder Terminals & Volume Control Potentiometer	20	4A Relay Output Fuse

# Recommended Conduit Fixing & Cable Lengths

It is preferable that the EMC-3d Audio/Visual control panel is mounted on a conduit end box to aid wiring. Maximum cable length from conduit terminal box mounting position to terminals should not exceed 300mm

## Terminal Layout



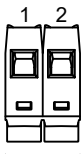
## Terminal Connection Details

### Power Connections



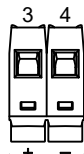
Connect a suitable 1ph/230VAC (2A) supply to terminals 'L', 'N' & 'E'.

### Control Connections



Mains Fail

Provides a volt-free signal if the mains supply is lost. i.e. a Normally Open contact that closes.



Solenoid

Provides a 24VDC output to energise the solenoid.  
**Note:-** Only active if the power has failed or until 1 second before the panel is reset. 1 second pulse before reset is required to ensure that the fire shutter will always close e.g. a faulty door supply, etc.



Audio/Visual

A 24VDC output will be present to drive a Slave Audio/Visual Unit, if required.

### Photocell Connections

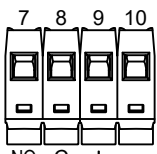


Photo Output Input

A N/C volt-free output will be present across terminals '7' & '8' when a N/C photocell is connected to terminals '9' & '10' to slave the photocell input. The N/C output on terminals '7' & '8' will be overridden by the 'Photocell Override Timer' upon activation of a fire signal. This allows the fire door to close, overriding the photocell, even if the photocell is damaged or blocked.

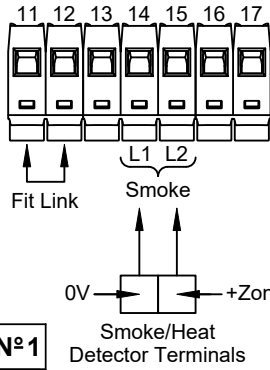
**Note:-**

Fit link if not used, otherwise the 'Photocell Override Timer' will always run, effectively extending the 'Delay' time before closing.

# Terminal Connection Details

## Fire Signal '1' Connection Options

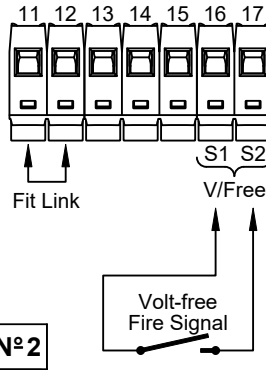
### Smoke/Heat Detector (2 max.)



**Option N°1**

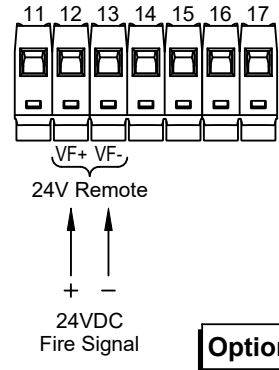
or...

### Volt-Free Fire Signal



**Option N°2**

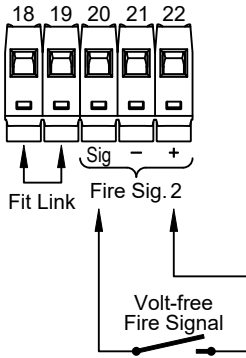
### or... 24VDC Fire Signal (Opto-Isolator)



**Option N°3**

## Fire Signal '2' Connection Options

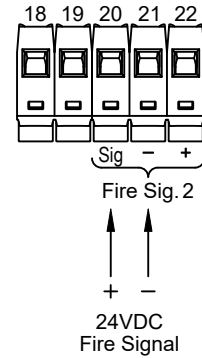
### Volt-Free Fire Signal



**Option N°1**

or...

### 24VDC Fire Signal



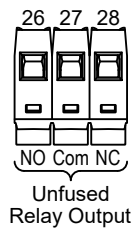
**Option N°2**

**WARNING!**

Never connect more than one EMC-3d Audio/Visual F.D.I. panel to any volt-free Fire signal. Do Not connect the EMC-3d in parallel - If more than one EMC-3d is to be triggered by a single Fire signal, then the '24VDC Fire Signal' option must be selected.

## Door Close Output Connections

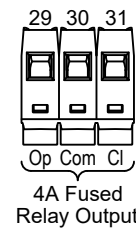
### Unfused Relay Output (suitable for Control Signals)



**Option N°1**

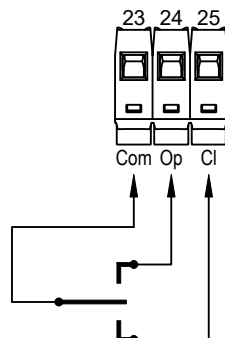
and/ or...

### Fused Relay Output (suitable for Motor/Inductive Loads)



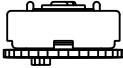
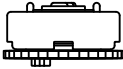


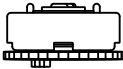
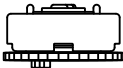


**Option N°2**





## 24 Volt DC Keyswitch Connections



## D.I.L. Switch & Potentiometer Function Details

D.I.L. Switch Potentiometer	 Basic Operation D.I.L. Switch '1' OFF	 Part-Close Operation D.I.L. Switch '1' ON
Delay 	<b>Audio/Visual Delay</b> Min. 30 seconds / Max. 90 seconds	<b>Fully Closed Timer (Smoke Curtain)</b> Min. 0 seconds / Max. 330 seconds
Run 	<b>Run Timer</b> Min. 60 sec / Max. 180 sec <95%< Infinite: <b>Note:-</b> Max. L.E.D. will illuminate and the sounder  Red L.E.D. 'Beep' if the Max. (Infinite) 'Run' timer is selected	<b>Run Timer</b> Min. 60 sec / Max. 180 sec <95%< Infinite: <b>Note:-</b> Max. L.E.D. will illuminate and the sounder  Red L.E.D. 'Beep' if the Max. (Infinite) 'Run' timer is selected
Photo O/Ride 	<b>Photocell Override Timer</b> Min. 60 seconds / Max. 5 minutes	<b>Photocell Override Timer</b> Min. 60 seconds / Max. 5 minutes Timer pauses at part close position
Part Close 	No Function	<b>Part Close Timer (Smoke Curtain)</b> Min. 3 seconds / Max. 30 seconds

## EMC-3d Audio/Visual Control Panel Operation

D.I.L. Sw. Settings	Description
 D.I.L. Sw.1 OFF D.I.L. Sw.2 OFF	<b>Basic Operation</b> On receipt of a Fire signal, the audio/visuals will activate. After a time set by the 'DELAY' pot., the relay output activates and the door will begin to close via solenoid release or power. Once the 'Run' timer has timed out the relay output is de-activated. <p style="text-align: center;"><b>Fire signal → 'DELAY' → Door closes → 'Run' Timer expires</b></p>
 D.I.L. Sw.1 OFF D.I.L. Sw.2 OFF	<b>Part Close (Smoke Curtain) Operation</b> On receipt of a Fire signal, the audio/visuals will activate. After a time set by the 'DELAY' pot., the relay output activates and the door will begin to power close. Once the 'Run' timer has timed out, the relay output is de-activated and the door will stop. The Part Close position is determined by the difference between the 'DELAY' and 'Run' timers, i.e. 60s 'Run' timer and 50s 'DELAY' = 10s Motor close time. <p style="text-align: center;"><b>Fire signal → 'DELAY' → Door closes → 'Run' Timer expires → Door stops part way</b></p>
 D.I.L. Sw.1 ON D.I.L. Sw.2 OFF	<b>Part Close (2-Stage Close) Operation</b> On receipt of a Fire signal, the audio/visuals will activate and the relay output activates. The door will power close for the time set by the 'Part Close' pot. and stop. After a time set by the 'DELAY' pot., the relay output will re-activate and the door will power close to the fully closed position. Once the 'Run' timer has timed out the relay output is de-activate. <p style="text-align: center;"><b>Fire signal → Door closes for Part Close time → Door stops → 'DELAY' → Relay re-activates &amp; Door closes → 'Run' Timer expires</b></p>
 D.I.L. Sw.1 OFF D.I.L. Sw.2 ON	<b>Mains Fail - Basic Operation</b> In the event of a Mains Power failure, the audio/visuals will activate. After a time set by the 'DELAY' pot., the relay output activates and the door will begin to close via solenoid release. Once the 'Run' timer has timed out the relay output is de-activated. The audio/visuals will remain active until mains power is restored. <p style="text-align: center;"><b>Mains failure → 'DELAY' → Door closes → 'Run' Timer expires</b></p>

### Photocell Operation

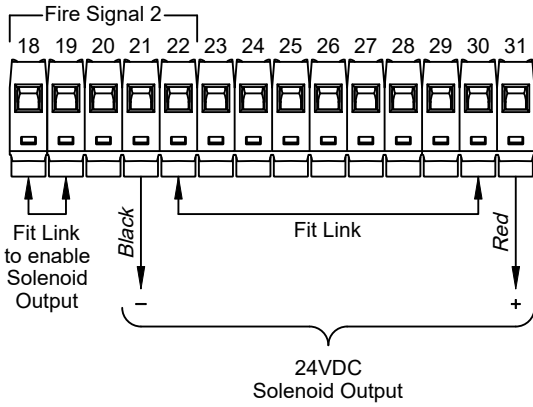
In the event of the photocell activating during a fire sequence, the photocell and relay output will both de-activate. When the photocell is no longer blocked, both of the outputs will re-activate. After either 5 activations or being blocked for the time set by 'Photo O/Ride', the photocell will be overridden.

### Notes:-

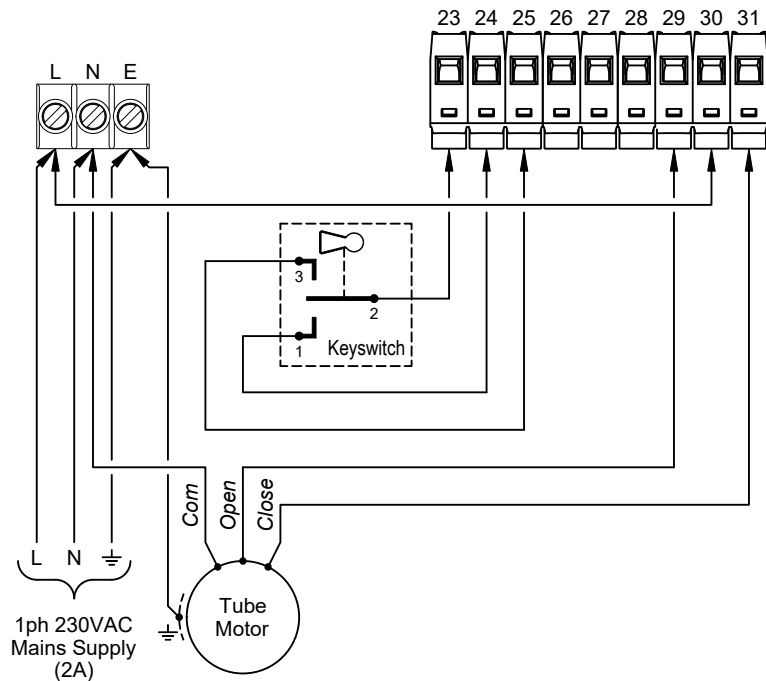
- \* The audio/visual will remain active until all the fire signals are reset/removed.
- \* If Max. 'Run' time is selected, the relay output will also remain active until all fire signals are reset/removed
- \* At the end of a fire close sequence/before the panel resets, the panel will pulse the solenoid output as an extra 'back-up' to ensure that the door is always closed.

# Example Wiring Connections

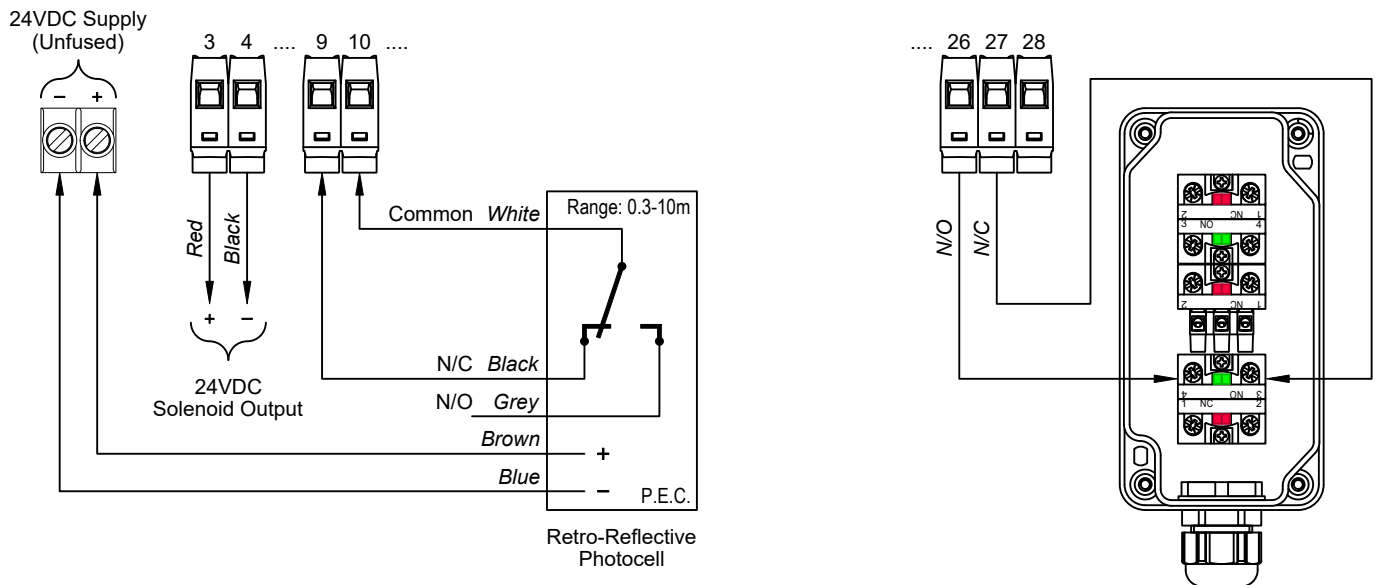
## EMC-3d c/w Basic Solenoid Operation



## EMC-3d c/w Tubular Motor (Keyswitch disabled during Fire Signal)



## EMC-3d c/w NBG Fire Door Operator (Drive motor closed under power with Solenoid as back-up)



# General Arrangement

