



### **FAIL SECURE (POWER TO UNLOCK)**

It is a mandatory safety requirement for doors equipped with 12/24V FAIL SECURE electric locking (power to unlock) to have a mechanical door handle / thumb turn fitted to the door on the internal escape/exit side to override the electric locking.

### **FAIL SAFE (POWER TO LOCK)**

It is a mandatory safety requirement for doors equipped with 12/24V FAIL SAFE electric locking / magnets (power to lock) to have a green breakglass fitted adjacent to the door (unless there is a mechanical override).

When the breakglass is activated it always breaks the power to the electric locking so the fail safe locking FAILS unlocked.



**Any deviation from fitting a Green Breakglass can be dangerous – a matter of life and death.**

The installation must comply fully with Building Control regulations ([www.labc.co.uk](http://www.labc.co.uk)) for emergency safe egress and receive NHBC sign-off.

The emergency exit safety devices must be guaranteed to unlock the fire route escape doors meaning operate at all times, for ALL persons inside the building; residents, visitors and/or employees.



Hearing problems



Visual problems



Wheelchair users



Elderly, mobility problems

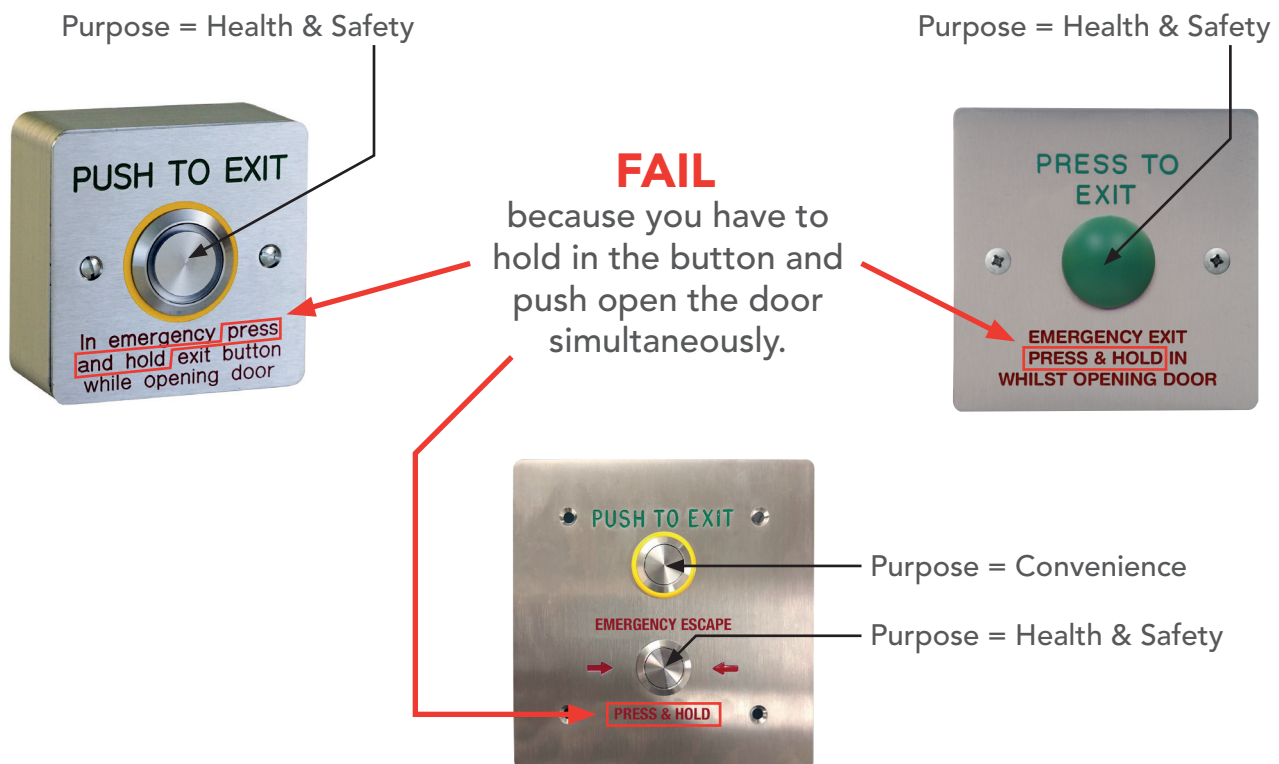


Arthritic

ALL persons includes the elderly, visually impaired, arthritic, weak, mobility impaired, the temporarily injured with loss of arm/hand/leg movement, amputees with only one arm, hearing impaired, children etc.

**THE EMERGENCY EXIT SAFETY DEVICES MUST BE EQUALITY ACT 2010 COMPLIANT.**

## BUILDING REGULATIONS PART M (ACCESS), CLAUSE 4.30 AND PART B (FIRE SAFETY).



**"the operation of switches... does not require the simultaneous use of both hands"**

These people cannot **Press & Hold** the button and at the same time **Pull/Push** the door open:

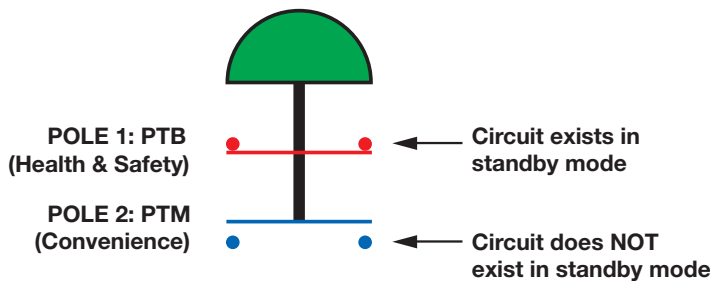
- An arthritic person
- A person with cerebral palsy
- A person in a wheel chair
- A child
- An elderly frail person
- A mother carrying a baby
- A person using a walking stick for balance
- A person with one hand, one arm or one leg
- A person with a broken arm or leg in plaster
- A person with coordination problems
- A person who has collapsed because of the smoke

**CAN ONLY BE USED IN CONJUNCTION** with a Secondary Independent Emergency Door Release System. The builder/electrical contractor/security installer/management company need to check and ensure the installation complies fully with Building Control regulations ([www.labc.co.uk](http://www.labc.co.uk)) for emergency safe egress.

**ALWAYS CHECK THAT BOTH POLES HAVE BEEN USED AND THAT WHEN THE BUTTON IS PUSHED AND HELD DOWN THE DOOR STAYS UNLOCKED AND DOES NOT RE-LOCK.**

### PRESS AND RELEASE TO EXIT

**Purpose = Convenience**

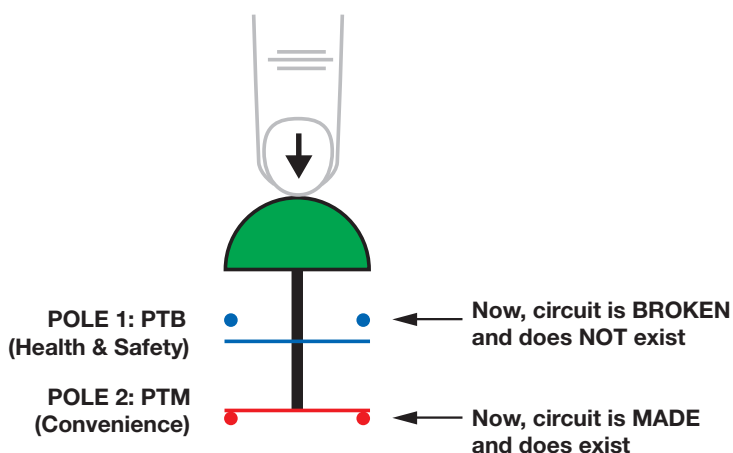


### PTM = PUSH TO MAKE

When the button is pressed a signal is sent to the door controller to open the door for a pre-programmed length of time for the comfort of the resident. The PTM part of the button is a CONVENIENCE device only.

### PRESS AND HOLD THE BUTTON

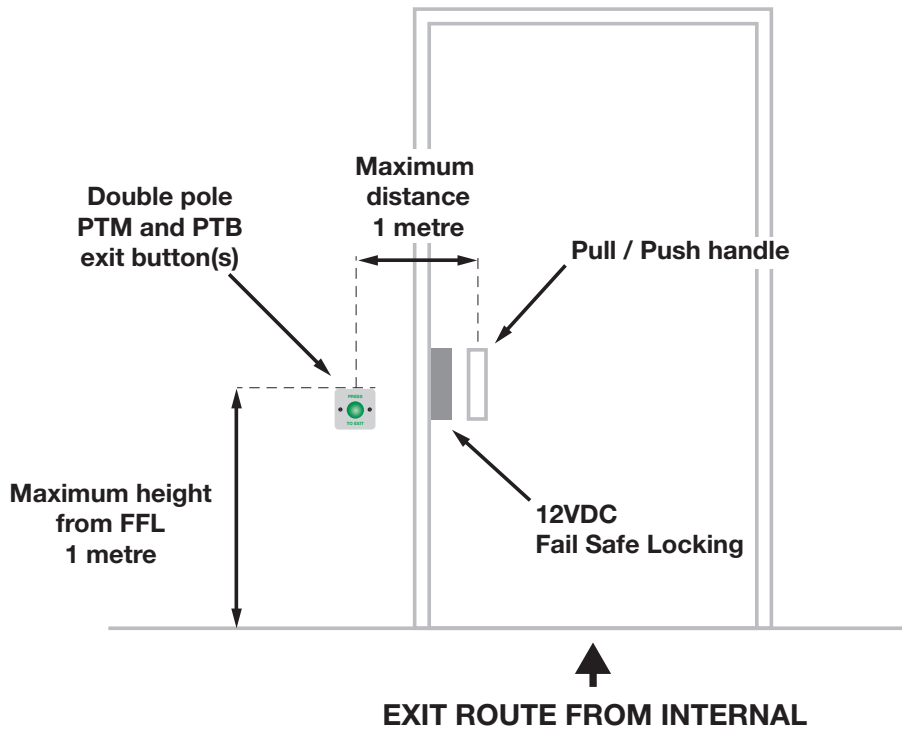
**Purpose = Health & Safety**



### PTB = PUSH TO BREAK

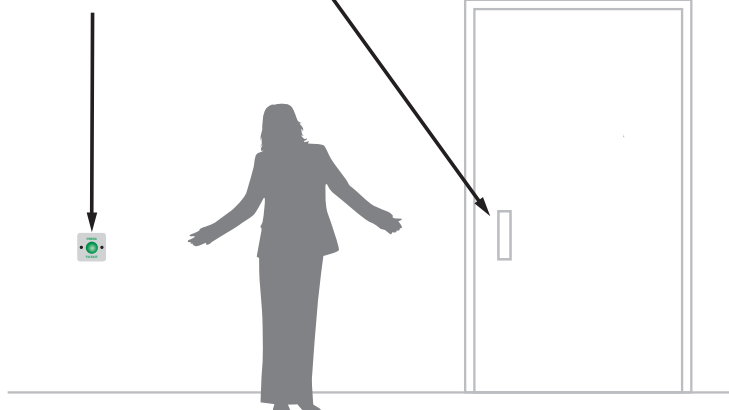
When the button is pressed the lock circuit is broken. No power gets to the FAIL SAFE locking device. The locking FAILS in the safe / unlocked mode so people can get out of the building. Whilst the button is held pressed in the door locking remains in the unlocked mode. The PTB part of the button creates a mechanical break in the lock cabling circuit and is for SAFETY.

**HEALTH & SAFETY! THINK SAFETY, THINK FIRE, THINK EMERGENCY EXIT. PEOPLE'S LIVES DEPEND ON A CORRECT INSTALLATION.**



**HEALTH & SAFETY WARNING**

**NOT SAFE !**



If a person cannot reach the exit button AND the door handle at the same time, the safety PTB poles of the button are USELESS. The installation is unsafe and dangerous.

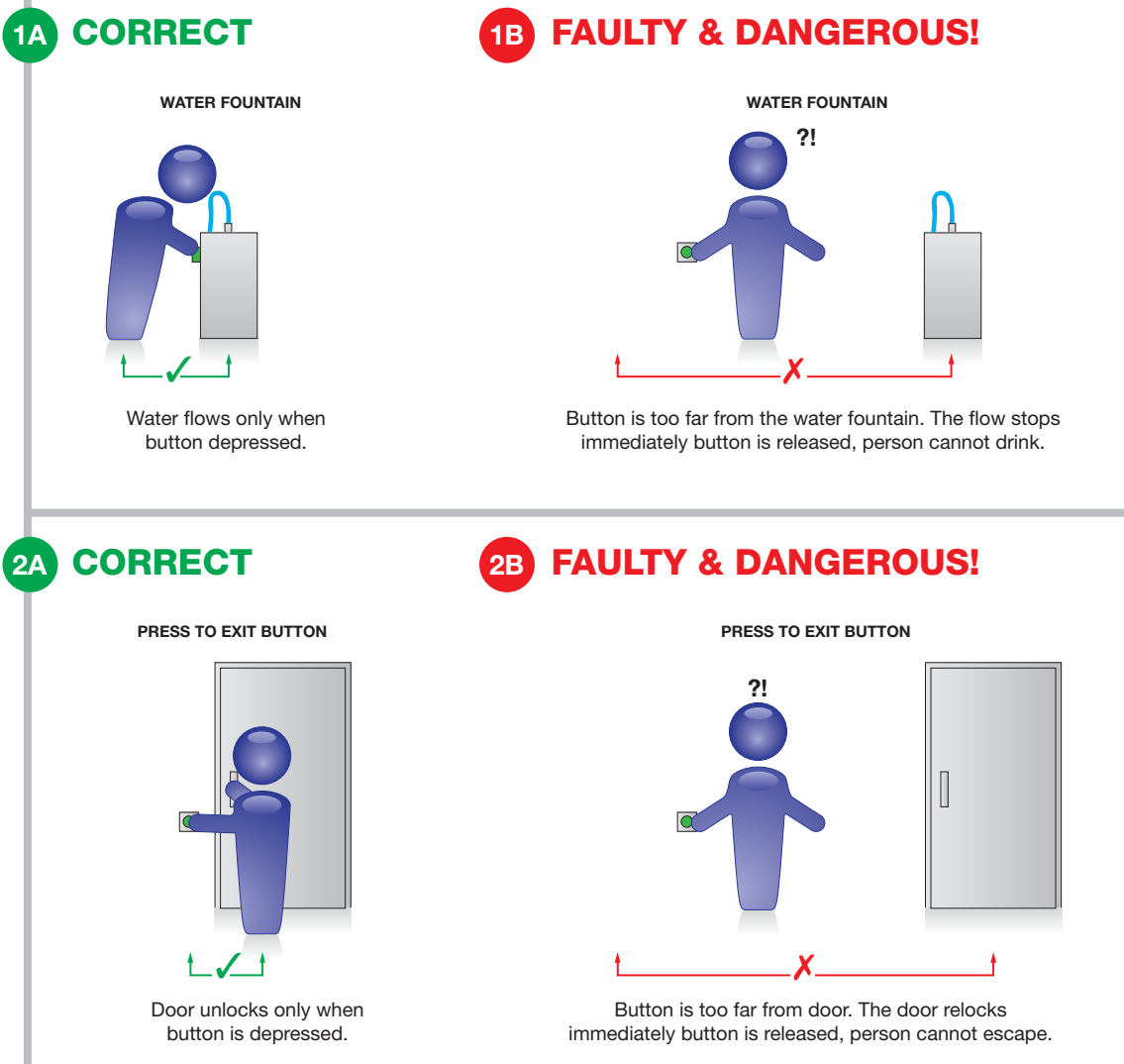
**REPORT  
NON-COMPLIANT  
INSTALLATIONS  
IMMEDIATELY.  
PEOPLE'S LIVES  
DEPEND ON IT!**

**ALL INSTALLATIONS MUST COMPLY WITH BUILDING CONTROL REGULATIONS**

## CORRECT POSITIONING OF EXIT BUTTON IS VITAL

The PTB (Push to Break) contacts on the button break the lock power circuit but only when the button is pressed in. The instant the button is released, the lock is immediately re-powered and the door immediately locks.

If the person cannot both press the button in and push or pull the door open at the same time, the installation is dangerous.

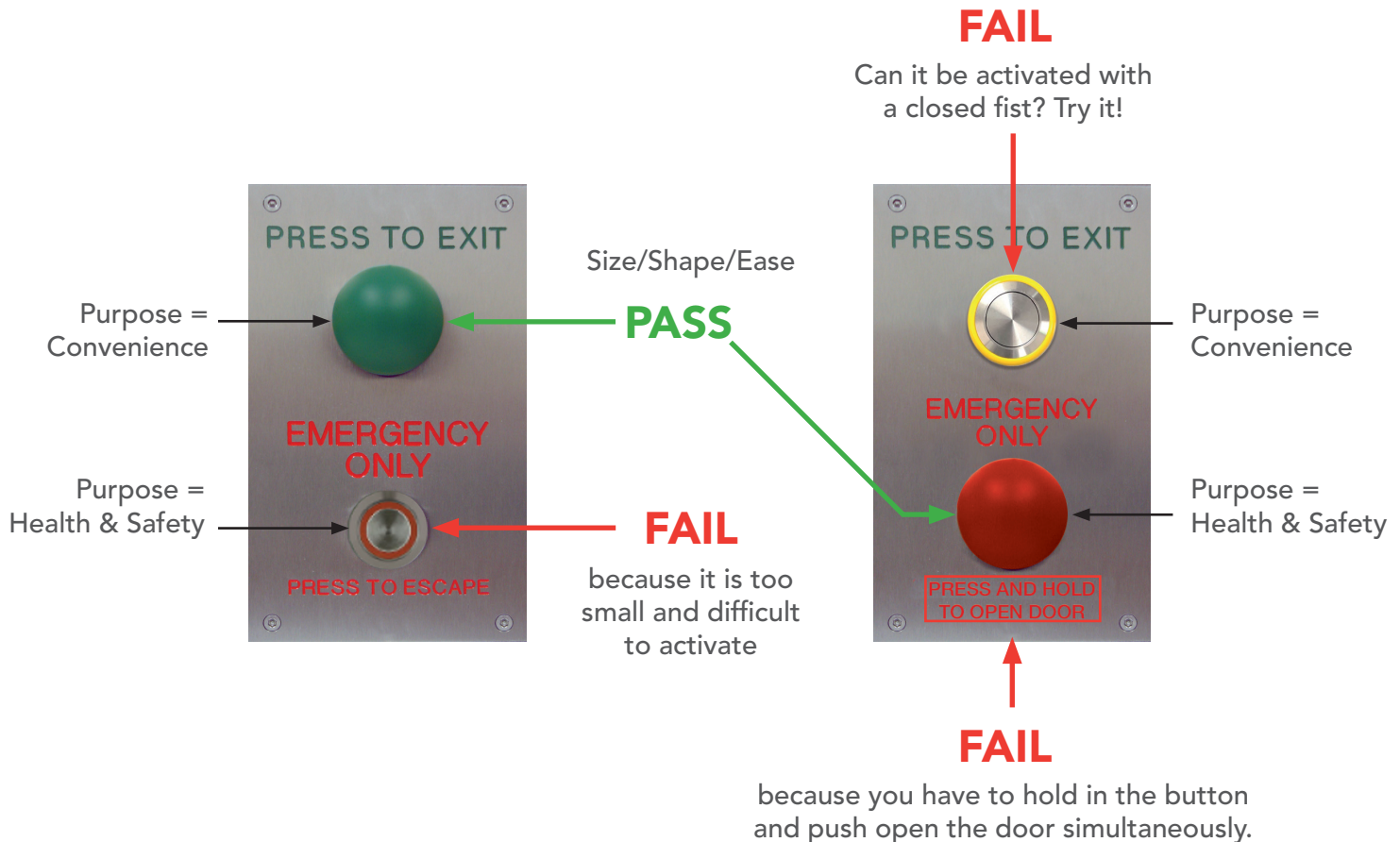


### WARNING

Must be fitted within 1 metre maximum distance of the door exit pull/push handle at a maximum height of 1 metre from FFL.

Position carefully so that door does not open OVER the exit button(s).

## BUILDING REGULATIONS PART M (ACCESS), CLAUSE 2.17C



**“can be operated with one hand using a closed fist”**

These people cannot even **Press the exit or emergency exit button** if it is not of a suitable size and shape.

- An arthritic person
- A person with cerebral palsy
- A visually impaired person
- A person with no hands

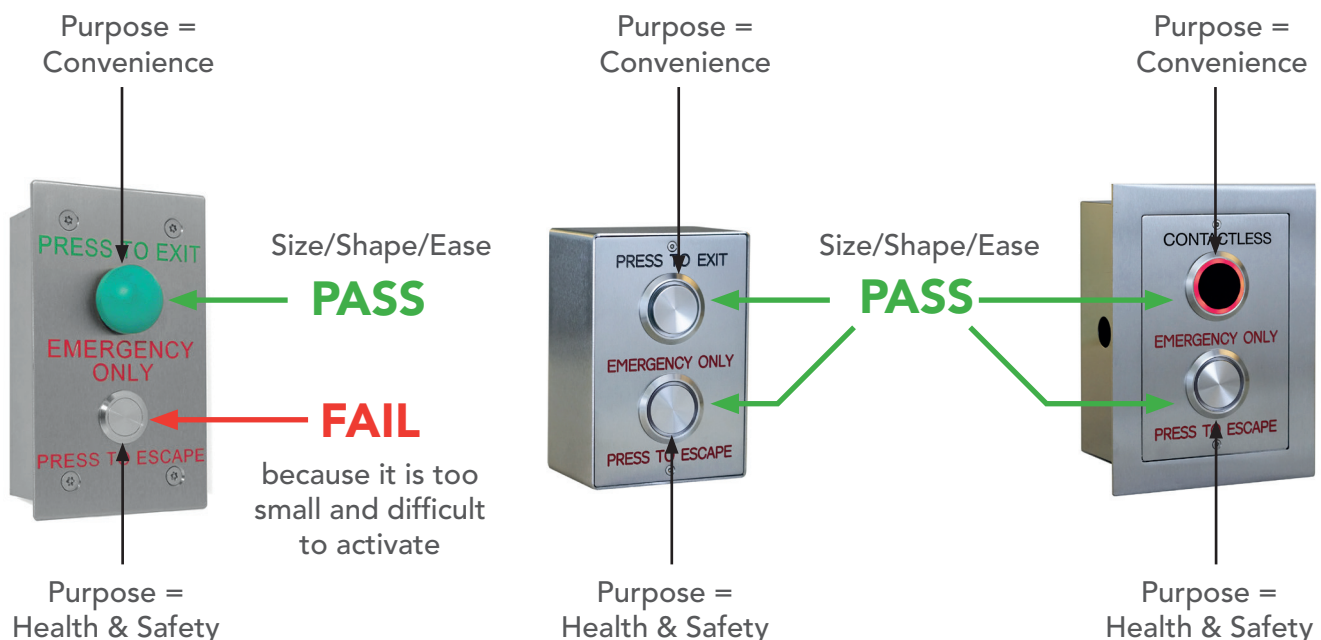
The intention here is that a person needing to **Press the Exit / Emergency Button** to escape can do so easily even using a closed fist, elbow, foot etc.

The buttons must be as visible and big as reasonably possible.

**BS5839-1 and Approved Document Part B of the Building regulations (Volume 2) clause 5.11.**

**Clause 4.30 of Part M (Access) of the Building Regulations, Section J: "the operation of switches, outlets and controls does not require the simultaneous use of both hands,..." and Part B (Fire Safety) state the obvious safety requirement:**

**"Doors must be openable without having to manipulate more than one mechanism, using a clenched fist..."**



**It is NOT permitted** to have a system **where the only emergency exiting procedure** requires that the person **needs to hold in a button and at the same time pull/push the door** because many people (as explained earlier in this H&S document) will not be capable of doing this.

**The Emergency Exit Button must have a latching UNLOCK facility** so that when pressed momentarily which means - in the normal way so pressed and immediately released - the electric locking system on the door latches unlocked for a minimum period of 3 minutes. This means that (1) the person escaping does not need to operate two things at once (2) a person who has collapsed due to smoke and crawled up to the door is not faced with a locked door.

Must be fitted within 1 metre maximum distance of the door exit pull/push handle at a maximum height of 1 metre AFFL.



**From:** Louis Taylor [mailto:LoTaylor@nhbc.co.uk]  
**Sent:** 01 July 2014 10:27  
**To:** Richard Collis  
**Subject:** RE: Thanks and more education pls

Confirmation, Exit Button location.

Dear Richard,

Manual call points are as below (BS5839-1) They should be located "adjacent" the door. I have been unable to find a specific maximum distance from the door.

h) Manual call points should be fixed at a height of 1.4 m above finished floor level, at easily accessible, well-illuminated and conspicuous positions free from potential obstruction. They should be sited against a contrasting background to assist in easy recognition. A lower mounting height is acceptable in circumstances where there is a high likelihood that the first person to raise an alarm of fire will be a wheelchair user.

NOTE 4 The figure of 1.4 m is arbitrary, but reflects long established custom and practice. A minor difference (e.g. less than 200 mm) in mounting height (e.g. to align with the mounting height of light switches) need not be regarded as significant, nor need it be recorded as a variation.

See 4.30 C & D

Also below is the requirement for door fastenings on escape route from Approved Document Part B of the Building Regulations (Volume 2):

## Door fastenings

**5.11** In general, doors on escape routes (whether or not the doors are fire doors), should either not be fitted with lock, latch or bolt fastenings, or they should only be fitted with simple fastenings that can be readily operated from the side approached by people making an escape. The operation of these fastenings should be readily apparent; without the use of a key and without having to manipulate more than one mechanism. This is not intended to prevent doors being fitted with hardware to allow them to be locked when the rooms are empty. There may also be situations such as hotel bedrooms where locks may be fitted that are operated from the outside by a key and from the inside by a knob or lever, etc.

Where a door on an escape route has to be secured against entry when the building or part of the building is occupied, it should only be fitted with a lock or fastening which is readily operated, without a key, from the side approached by people making their escape. Similarly, where a secure door is operated by a code, combination, swipe or proximity card, biometric data or similar means, it should also be capable of being overridden from the side approached by people making their escape.

Electrically powered locks should return to the unlocked position:

- on operation of the fire alarm system;
- on loss of power or system error;
- on activation of a manual door release unit (Type A) to BS EN 54-11:2001 positioned at the door on the side approached by people making their escape. Where the door provides escape in either direction, a unit should be installed on both sides of the door.



I enclose the clause 2.17 of Part M (Access) of the Building Regulations with requirements for door openings in buildings other than private dwellings:

c. where fitted with a latch, the door opening furniture can be operated with one hand using a closed fist, e.g. a lever handle;

The Exit Button needs to be of sufficient diameter, or suitable shape to be depressed using a closed fist.

## And 4.30:

c. all switches and controls that require precise hand movements are located between 750mm and 1200mm above the floor;

d. simple push button controls that require limited dexterity, are not more than 1200mm above the floor;

j the operation of switches, outlets and controls does not require the simultaneous use of both hands, except where this mode of operation is necessary for safety reasons;

Double pole (DP) Exit Button only is NOT permitted

I hope the above makes the matter clear.

Kind regards

Louis

Louis Taylor MRICS BEng(Hons) MSc MCABE C.Build E

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According to 4.30 J, a thumb-turn only is insufficient

**From:** Richard Collis [<mailto:rcollis@nacd.co.uk>]  
**Sent:** 01 July 2014 10:06  
**To:** Louis Taylor  
**Subject:** Thanks and more education pls

Thanks Louis, makes sense, interesting.

To confirm:

- (1) A button that activates an electronic device via a signal to open the door (a convenience system) is unacceptable because the button/cabling/electronic device might fail. It makes no difference to building control if you double up on the buttons and controllers etc.
- (2) A thumb-turn only on the inside of a door ref electrical access control / door entry systems should not be acceptable .... Part B (Fire Safety) and Part M (access – for the disabled).....because a person would need to turn this and then pull or push on the door at the same time. This would require 2no hands....and is very difficult for old people as the thumb turns are often very small and fiddly.
- (3) A 2no button system where, in addition to the momentary contacts there are mechanical break contacts (PTB's) and where 1no of these buttons engraved Emergency also latches the door open so that a person can simply pull / push is acceptable.

(4) Is there a maximum distance, maximum height from the door for the exit button and breakglass.

Kind regards

**Exit Button must be adjacent to the door**

**Exit Button Max 1.2m AFFL**

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**Yes, because the back-up 2nd button, the Emergency Exit Button only needs to be pressed and released in order for the door to latch unlocked. Also refer to information on diameter/shape of Exit Button.**

**From:** Louis Taylor [mailto:LoTaylor@nhbc.co.uk]  
**Sent:** 30 June 2014 16:51  
**To:** Richard Collis  
**Subject:** RE: urgent question , need guidance ....Cycle stores locking.

Double pole (DP)  
Exit Button only  
is NOT permitted

Dear Richard,

Doors that require you to hold down a button whilst pushing a door would not be permitted as it's a requirement of both Part B (Fire Safety) and Part M (access – for the disabled) that the door is openable without having to manipulate more than one mechanism, using a clenched fist. This is so that persons with limitations with their hands/limbs only have to use one limb to open. If you thus need two hands to operate such devices they would not be permitted and should not thus be used. If you've any other queries regarding the above please feel free to get in touch.

Kind regards  
Louis

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The Exit Button needs to be of  
sufficient diameter, or suitable  
shape to be depressed and  
released using a clenched fist.





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