

Cleanroom Door Interlock System

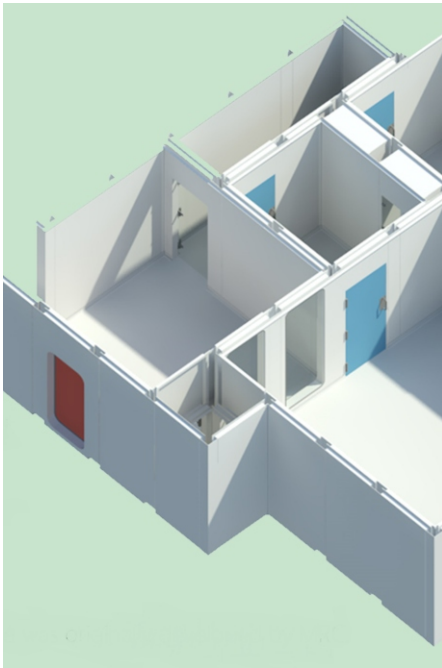
The access to the production area and ingredient store area in pharmaceutical industry is through the airlock/change room. The airflow and pressurization is maintained in the airlock/change room to minimize microbiological and particulate contamination. In addition to maintenance of airflow and pressurization the good manufacturing practice guidelines of various agencies around the world suggests only one door be opened at one time, either by procedure or by providing a door inter locking system. The procedure calls for dependence on manpower and it is difficult to ensure that the procedure is followed. An electronic door interlocking system to prevent simultaneous opening of both the doors.

The Door Inter locking system controls the sequential locking and release of the doors only. The opening and the closing the door are not controlled by the Door Inter locking system. The user has to pull/push the door to open and pass through the Door. The closing of the door is manual or ideally through a door closure mechanism.

In normal condition, both the doors in Locked state. If door-1 open other door may not be Unlocked. And Same vice versa, Door status (locked/Unlocked) indication shall be available on entry and exit of the door. For locking of the doors, we are using electromagnetic locking mechanism.

Only one door to be opened at one time. The simultaneous operation of both the doors should not be allowed.

While Power OFF condition, Both the magnets shall be in unlocked condition.

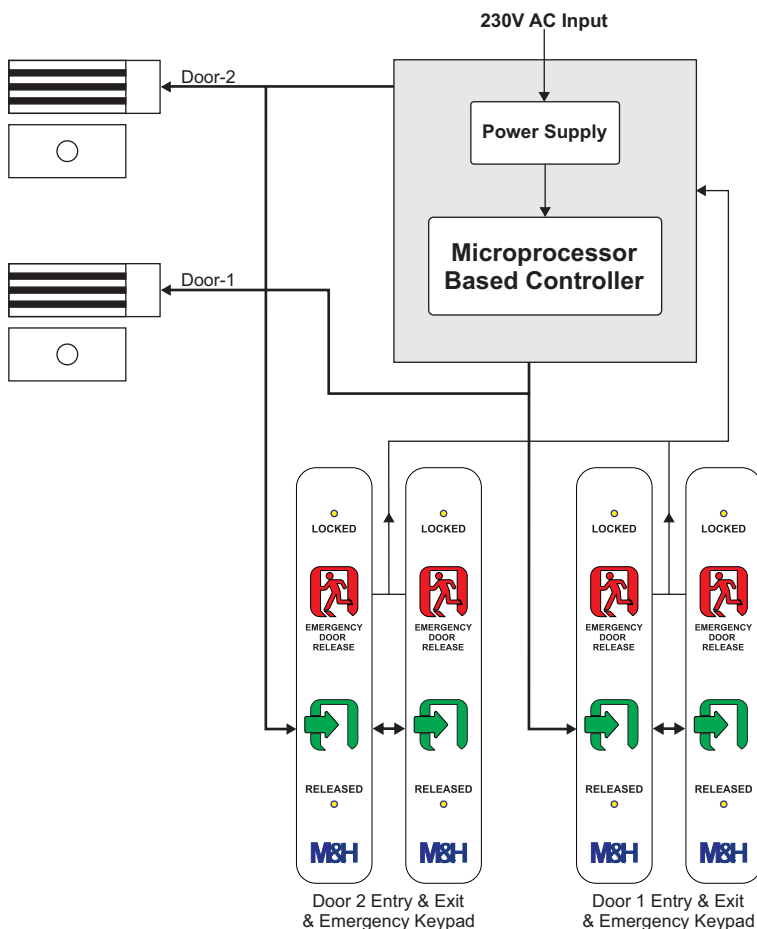


TECHNICAL SPECIFICATIONS:

Controller:	Microprocessor based
No. of doors:	2 to 4 Doors
Power Supply:	220V AC 50Hz +/- 10%
Enclosure:	MS Powder Coated/SS (optional)
Mounting:	Wall mount/User specific
Connection:	Screw mount wago connectors for wiring
Activation:	Reed Switches, Key Switches/CD Switch/Proxy Reader.
Indication:	Doors Lock and Release status.
Operating Condition:	0 to 50°C/95% RH

Cleanrooms require clean air separation for a controlled environment. These air locks may also utilize air pressurization to maintain the sterile area. Some “air locks” use normally unlocked doors, however better systems will utilize doors that are normally locked with push button release stations on each. This insures that two or more doors cannot be opened simultaneously.

- > Normal Condition all EM Locks (Doors) in Lock Condition with Red LED indication.
- > To Unlock the Door EM Lock, press the push button keypad on same door.
- > After press the push button keypad, open the Door before 10 Sec. other wise EM Lock will lock again.
- > If Door is open and did not close within 20 Sec. Buzzer will ON at same Door, till Door close.
- > Incase of Emergency Doors may unlocked by pressing Emergency pushbutton.



Logic of Operation for 2 Doors Interlock

Open Door No.	Un Access Door No
Door 1	Door 2
Door 2	Door 1

Logic of Operation for 3 Doors Interlock

Open Door No.	Un Access Door No
Door 1	Door 2 , Door 3
Door 2	Door 1 , Door 3
Door 3	Door 1 , Door 2

Logic of Operation for 4 Doors Interlock

Open Door No.	Un Access Door No
Door 1	Door 2 , Door 3 , Door 4
Door 2	Door 1 , Door 3 , Door 4
Door 3	Door 1 , Door 2 , Door 4
Door 4	Door 1 , Door 2 , Door 3