

# Rittal – The System.

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## ► Technical System Catalogue Door Control System



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# Door Control System



System for opening the rack door automatically in case of fire or a cooling failure.

- 1 Spindle motor
- 2 Push frame
- 3 Gas pressure damper
- 4 Magnet system

# Door Control System

## Door Control System

System for opening the rack door automatically in case of fire or a cooling failure, comprised of multiple interconnected elements. The doors are kept closed by magnets. If you need to open the door, the power supply to the magnets is interrupted, and a gas pressure damper opens the rack door.

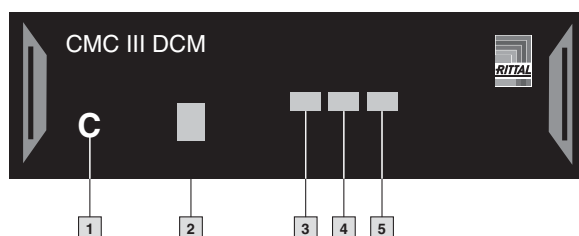
In closed enclosure systems (e.g. when using the LCP rack), two spindle motors must additionally be mounted on the roof of the enclosure. The motors open the doors slightly, which becomes necessary if an underpressure occurs inside the enclosure due to the LCP rack or the server fans, which would keep the doors closed.

The individual elements are controlled by a central unit, the door control module. This can be connected both to the CMC III and to the control unit of the Liquid Cooling Package (LCP) via CAN bus. Autarkic operation is also possible.

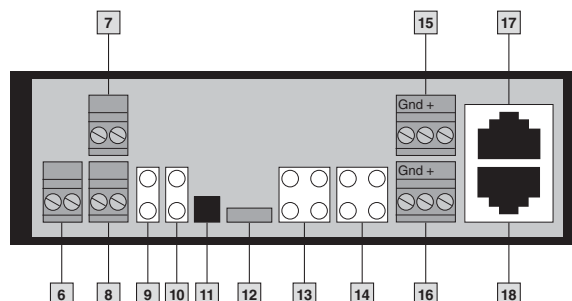
The door can be programmed to open with various alarm messages. The enclosed sensor may be connected to the unit itself, or a separate temperature sensor may be used to provide the activating temperature measurement. Additionally, the control unit has a normally closed contact for each door for connecting a switch or another opening mechanism, and an alarm input for connecting an external notification system.



## Connection information



- 1 Clear button
- 2 Status LED
- 3 LED for target/limit display (30°C)
- 4 LED for target/limit display (35°C)
- 5 LED for target/limit display (40°C)
- 6 Digital signal input  
(e.g. for BMA with floating contact)
- 7 Jack for access button/handle with normally closed contact  
(door 1)
- 8 Jack for access button/handle with normally closed contact  
(door 2)
- 9 Jack for magnetic door kit (door 1)

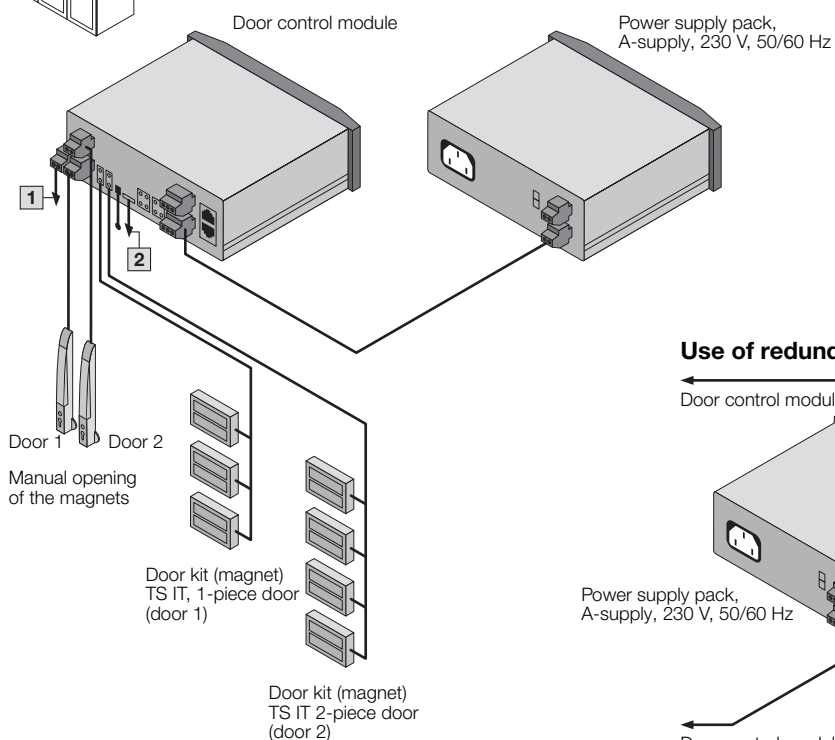


- 10 Jack for magnetic door kit (door 2)
- 11 Jack for NTC temperature sensor  
(2 m cable, enclosed with pack)
- 12 Flat-pin connector for reader (acts on door 1 and 2)
- 13 Jack for door kit extension LCP (door 1)
- 14 Jack for door kit extension LCP (door 2)
- 15 Jack for power pack (LCP circuit), motor operation
- 16 Jack for power pack (server circuit), magnet operation
- 17 CAN bus 2 connection (RJ 45)
- 18 CAN bus 1 connection (RJ 45)

# Door Control System

## Sample applications

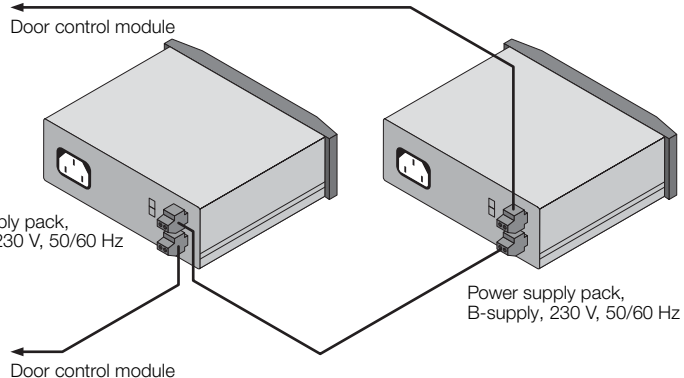
### With magnetic lock



1 Option: Digital signal inputs (e.g. fire extinguisher system with floating contacts)

2 Option: Door opening via coded lock or transponder reader

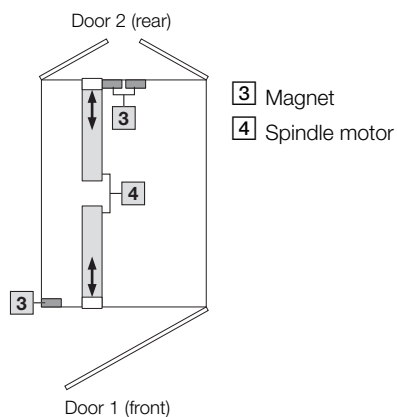
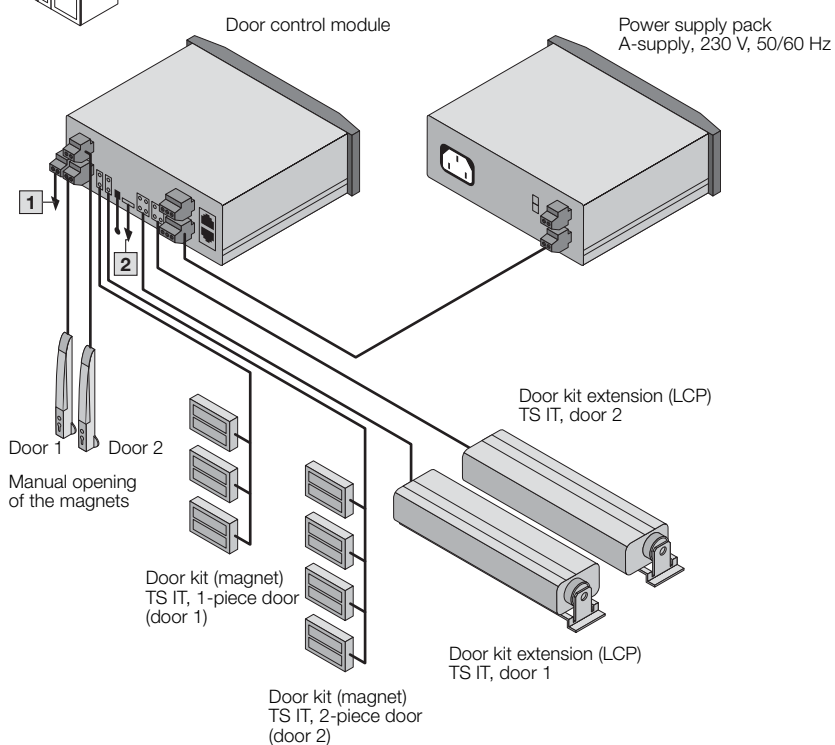
### Use of redundant power packs



#### Note:

- Use the same A-supply and B-supply as the server being protected
- For a redundant A-/B-supply, the power supply must run parallel

### With magnetic lock and spindle motor For underpressure inside the rack



# Door Control System

## Door control module

The door control module is the central control unit for the automatic door opening system. The magnets of the door kits, the door kit extension and the handles for manual opening of the doors are connected to this module. The control command to open the doors is sent from the PU to the DCM via the CAN bus. The DCM needs a separate power supply unit.

- Max. quantity on CMC III Processing Unit: 16
- Max. quantity on CMC III Processing Unit Compact: 4
- Temperature measurement range: -40°C...+80°C
- Digital input (terminal, door control): 2
- Digital input (terminal, external alarm): 1
- Interfaces: 2 magnets, door kit
- Interfaces: 2 motors, door kit extension
- Interfaces: 1 CMC III reader unit
- Jack for external temperature sensor: 1
- RJ 45 CAN bus jacks: 2
- W x H x D: 138 x 40 x 120 + 12 mm front
- Colour: RAL 9005/7035



## Door kits TS IT

The door kits are the actual mechanism that opens the doors. They are comprised of one or two gas pressurised springs and three or four magnets (depending on whether you wish to open a 1-piece or 2-piece door). The magnets hold the door(s) closed. In the event of an alarm, the power to the magnets is shut off, and the gas pressurised springs press the door open.

- Rated voltage: 24 V DC
- Rated current, door kit TS IT, 1-piece door: 390 mA
- Rated current, door kit TS IT, 2-piece door: 520 mA



## Door kit extension

The door kit extension is required for applications where an underpressure may arise in the enclosure due to the fans. The door kit extension comprises one spindle motor per door which opens the door slightly in the event of an alarm to allow for pressure relief. The door kit extension requires its own power supply unit and must be supplied via the UPS.

- Rated current: 900 mA
- Push force: 1000 N
- Stroke length: max. 200 mm



## Door switch/door comfort handle

A door can be opened manually with the door comfort handle and the door switch. The switch interrupts the power supply to the magnets, whereupon the gas pressurised springs open the door. The door comfort handle likewise has a built-in switch.

- Rated voltage of door comfort handle: 24 V DC, 3 A
- Rated voltage of door switch: 250 V, 2 A



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- You can find the contact details of all Rittal companies throughout the world here.



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