**DIGITUS
BIOMETRICS**
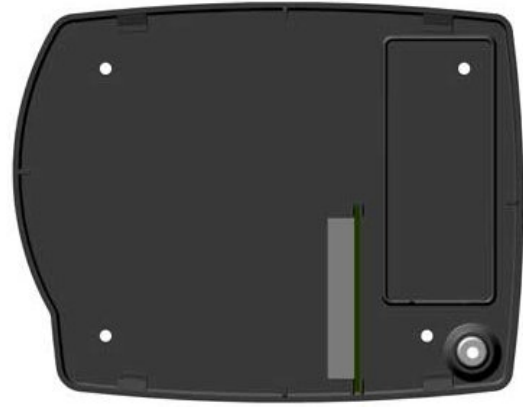Access Security Solutions

db Nexus Duo
Installation Manual

Table of Contents

Mounting the Head Unit(s)

Front Section

Back Section

Locate a surface adjacent to the opening side of the door, making sure that a person can stand directly in front of the unit without obstruction. The unit should be positioned (where possible) on the wall so that the user's forearm is approximately 90 degrees to the wall during operation.

Prior to locating the back section of the head unit, double check that the cable passageway through the wall is clear from obstruction (e.g. pipes, cables, etc.)

- Locate the back section of the head unit (or use the template provided in Appendix I) using a spirit level to ensure that the plate is level.

- Inscribe the 4 screw holes and cable passageway (bottom right) with a pencil on the wall.

- Drill and plug (where necessary) the wall where the 4 mounting screws are to be fixed.

- Drill through the wall where you have marked the cable passageway, so that the cable can be passed directly into the rear of the unit.

- Mount the back plate of the head unit to the wall using screws appropriate for the surface being fastened to.

Mounting the Control Unit

**The control unit can be placed above a false ceiling or high up out of general reach,
as no user interaction is necessary with this unit once installation is complete. Alternatively, all of the control
units can be located centrally in a communication closet.
The maximum distance between the head unit and the controller is 500 feet.**

**In order to make the process of mounting the control unit and connecting it to
the head unit as easy as possible, we recommend removing the 12v battery.**

- Locate a suitable flat surface on the ***inside of the protected door***.

- Ensure that the unit is level and inscribe the 4 screw holes with a pencil on the wall.

- Drill and anchor the wall (where necessary) where the 4 mounting screws are to be fixed.

- Mount the control unit to the wall using screws appropriate for the surface being fastened to.

Connecting the Head Unit(s) to the Control Unit

- Once the control unit and the back plate of the head unit(s) are securely mounted, run a 4-pair (8 conductor) cable between the head unit and control unit. A Belden 9504 or equivalent is recommended.

- The cable should leave the control unit via one of the push-out holes located on the bottom of the unit, running neatly along the wall and into the hole drilled through the rear of the head unit. Leave approximately 8" (200mm) of cable spare at each end to allow for stripping the wires and connection to the terminal blocks. We also recommend allowing an extra 12" to 18" of cable to be left as a service loop behind the surface you are mounting to.

- The cable should be wired as shown below. The actual colors are not important but each pair of wires must be connected as shown in the diagram.

- Wire the head unit as shown below.

To simplify the wiring the 2-part connectors can be removed from the boards.

- Strip approximately ¼" (6mm) of sheath from each cable and insert into terminal blocks, checking that all wires are securely fastened.

- Repeat the procedure at the control unit.

The bottom row of terminals on the "Head" connector is for Head 1 and the top row is for Head 2.


Connector inside db Nexus Duo Head Unit
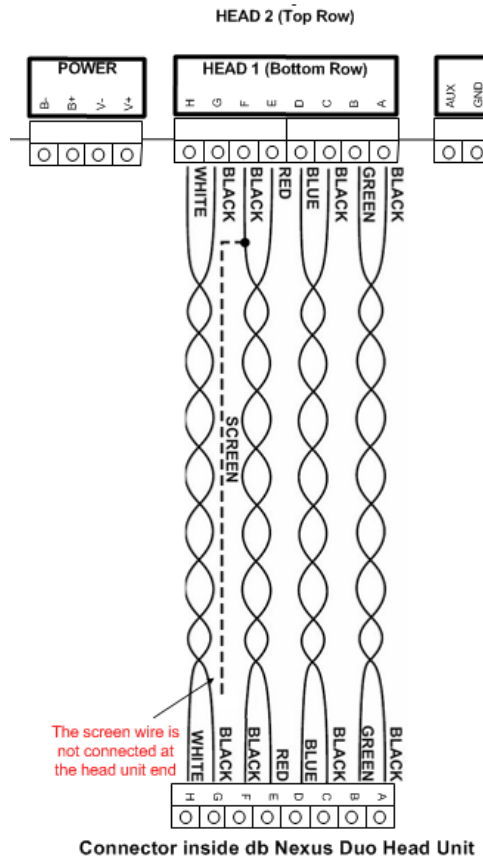
Connecting the Power Source to the Control Unit

**Please ensure that you have a power outlet near the control unit
which will ONLY be used to supply power to the control unit.**

**ONLY the transformer supplied by Digitus should be used to power the control unit
(or an exact equivalent).**

- Strip approximately ¼" (6mm) of plastic sheath from each cable to the power supply and connect to the appropriate terminal blocks, checking that all wires are securely fastened.

- If you previously removed the battery (as recommended), please reinstall it and fasten securely.

- Reconnect the battery as shown below.
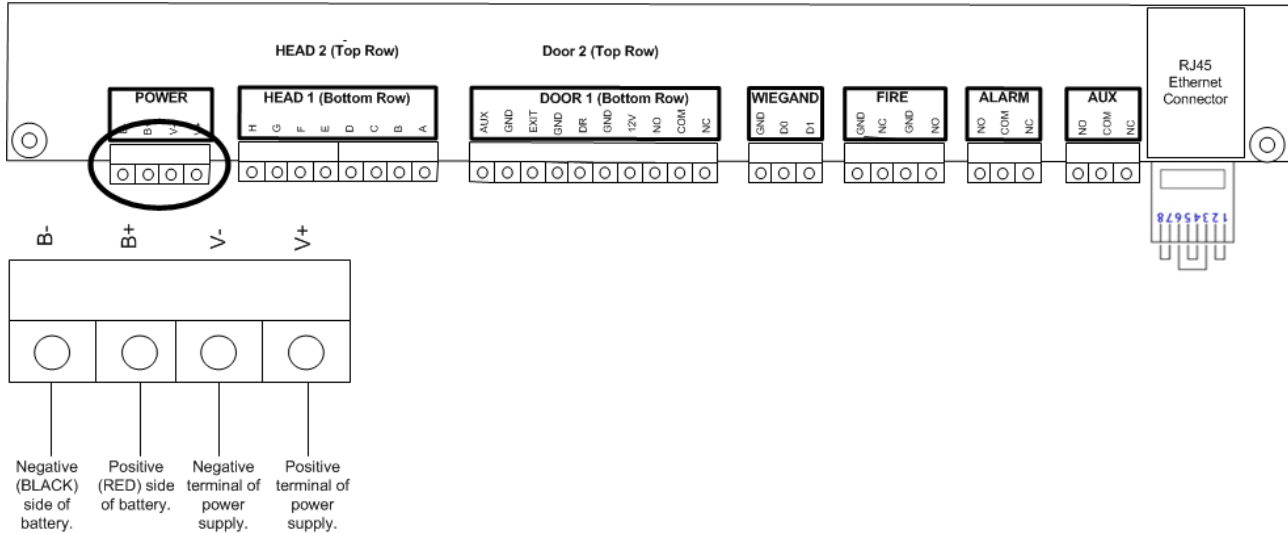
# Connecting an Electric Strike to the Control Unit

- Fit appropriate lock(s) to the door(s) being secure by the db Nexus Duo unit.

- The type of lock(s) used determines how the control unit is wired.

The bottom row of terminals on the "Door" connector is for Lock 1 and the top row is for Lock 2.
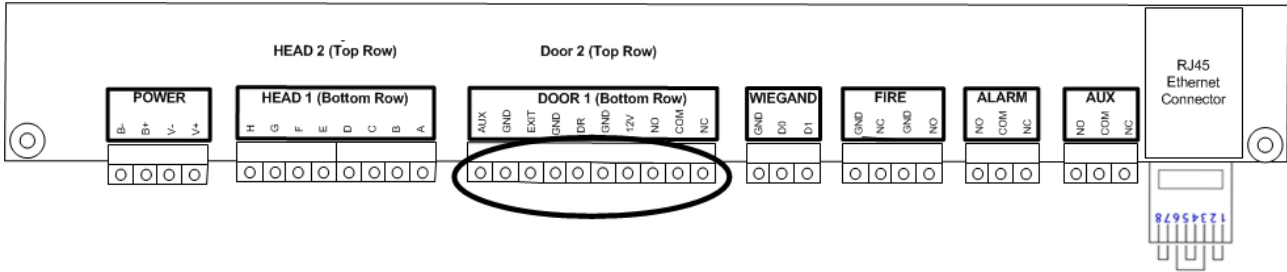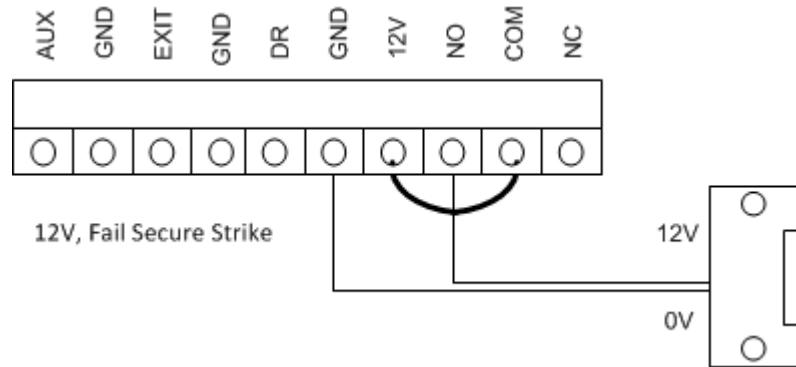

Fail Safe Locks and Magnetic Locks (12V)

- A fail-safe or magnetic lock is permanently supplied with a 12V supply to keep the lock closed.

- Connect the Ground Lead of the lock to a terminal labeled **0V**.

- Connect the Live Lead of the lock to the terminal labeled **Door Solenoid**.

- Connect a link between **Link** and **NC** and a link between **COM** and **12V**


12V, Fail Safe Strike or Mag. Lock
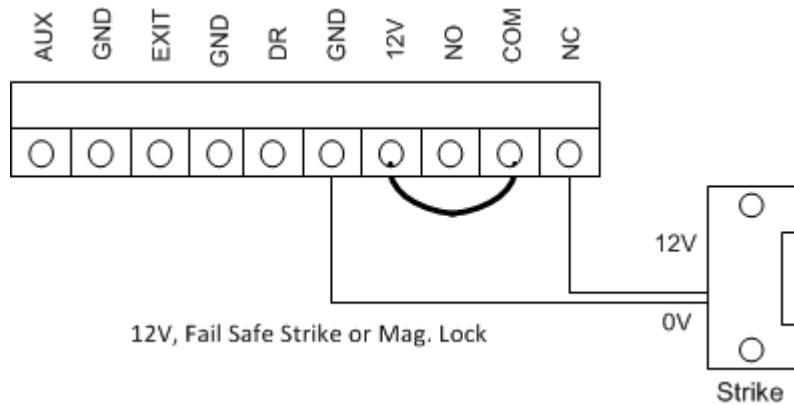
Fail Secure Locks (12V)

- A fail secure lock needs supplying with a 12V supply to open the lock.

- Connect the Ground Lead of the lock to the terminal labeled **0V**.

- Connect the Live Lead of the lock to the terminal labeled **Door Solenoid**.

- Connect a link between **Link** and **NC** and a link between **COM** and **12V**


12V, Fail Secure Strike

Fail Safe Locks and Magnetic Locks (24V)

- A fail-safe or magnetic lock is permanently supplied with a 24V supply to keep the lock closed. The Digitus controller does not supply a 24V output. To use a 24V lock a separate power supply will be required. Wire a 24V Fail Safe lock as shown in the diagram:

External 24VDC Power Supply

24V, Fail Safe Strike
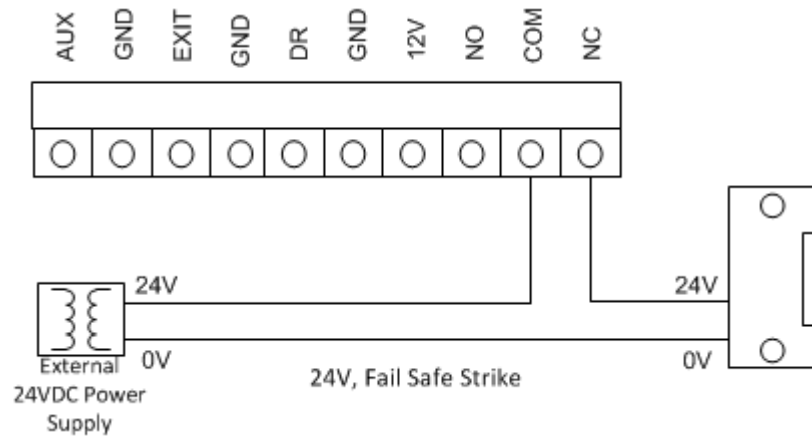
Fail Secure Locks (24V)

- A fail secure lock needs supplying with a 24V supply to open the lock. The Digitus controller does not supply a 24V output. To use a 24V lock a separate power supply will be required. Wire a 24V Fail Safe lock as shown in the diagram:
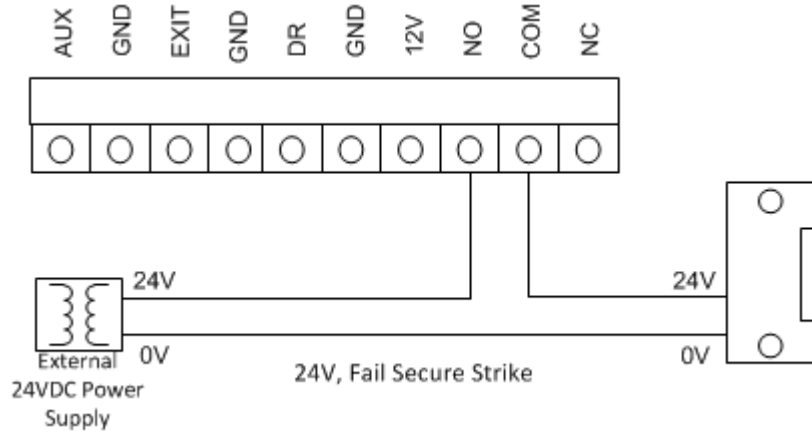
Request to Exit (RTE) Switch

- The control unit has built-in delay(s) for the RTE switch(s).

- Connect a push-switch as shown in the diagram below. The exit delay is set through the DAS-SQL software.

The bottom row of terminals on the "Door" connector is for RTE 1 and the top row is for RTE 2.
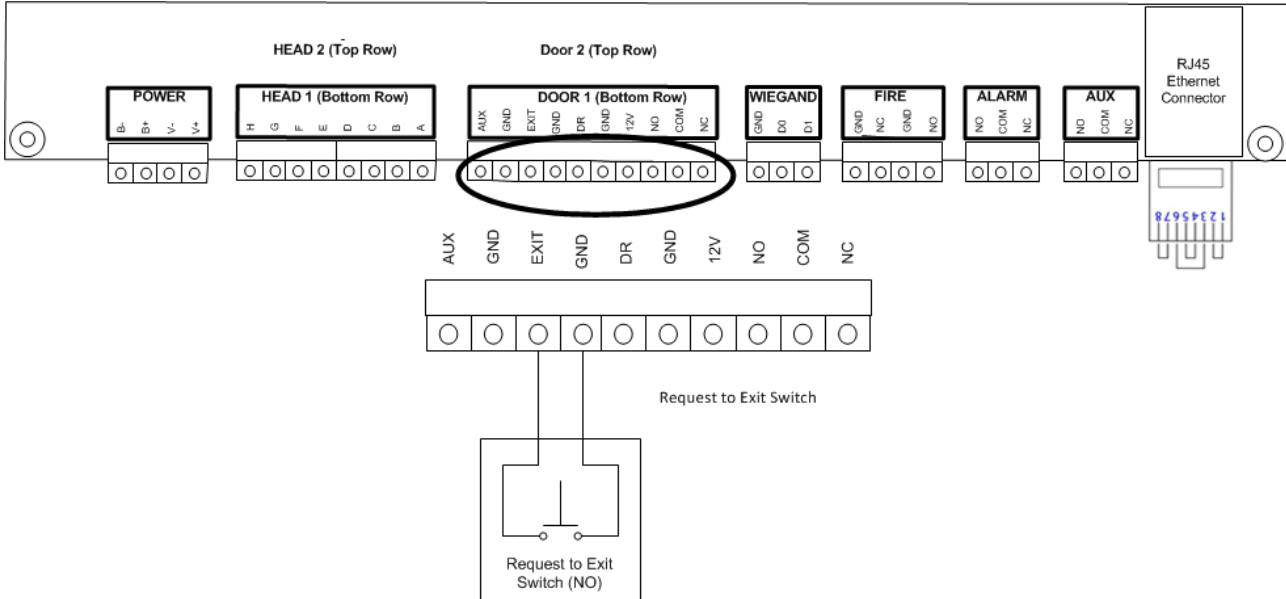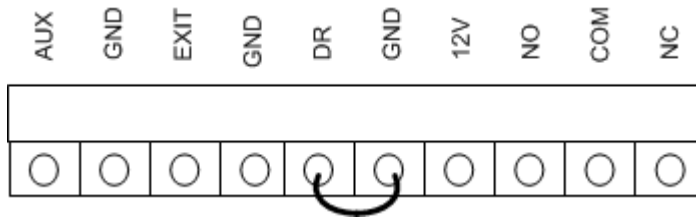
Door Sensor

- The door sensor contacts are used for the forced door and propped door features.

- The door sensor circuit must be used with a special type of door sensor that is tamper proof. The switch contains a 10K resistor, installed in-series with the switch. This prevents an internal security breach, where someone with authorized access to an area could potentially short-out the contacts on the door sensor.

- Connect the door sensor(s) as shown below.

The bottom row of terminals on the "Door" connector is for Door 1 and the top row is for Door 2.
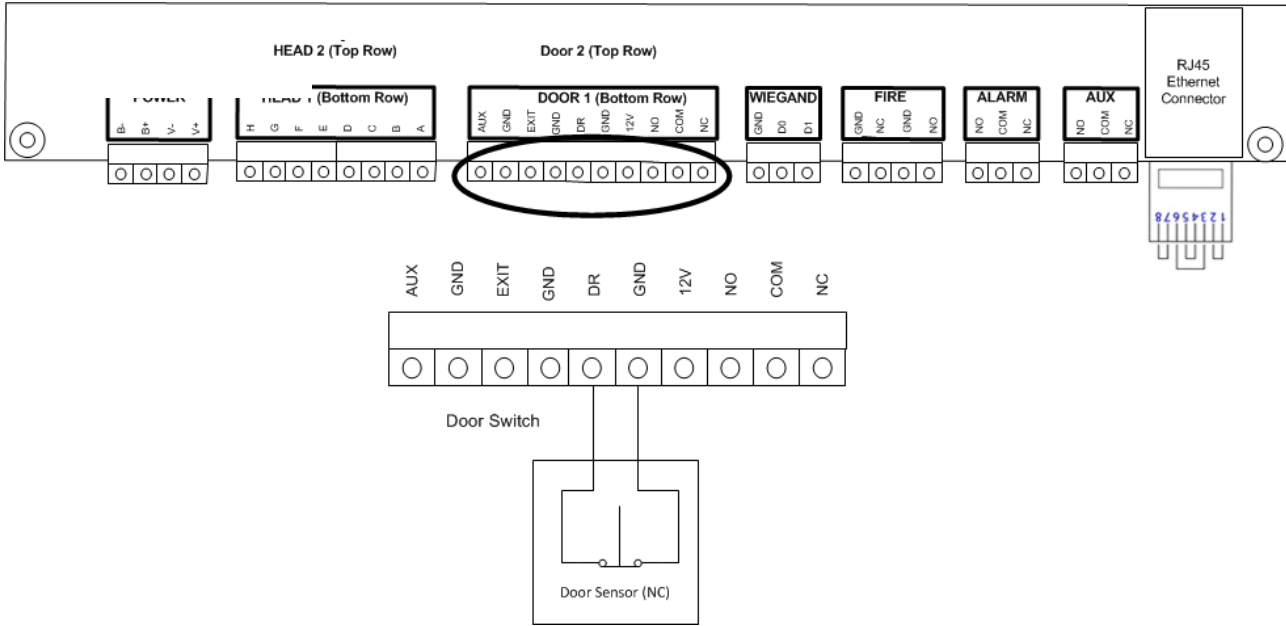

It is highly recommend that the door sensor be used, but if isn't, a link as show below, must be installed to prevent the door status as always showing as "open".

Auxiliary Sensor

- The auxiliary sensor contacts can be used to monitor the position of secondary input switches, such as additional doors.

- The auxiliary sensor circuit must be used with a special type of sensor that is tamper proof. The switch contains a 10K resistor, installed in-series with the switch. This prevents an internal security breach, where someone with authorized access to an area could potentially short-out the contacts on the door sensor.

- Connect the auxiliary sensor(s) as shown below.

The bottom row of terminals on the "Door" connector is for Auxiliary Sensor 1 and the top row is for Auxiliary Sensor 2.
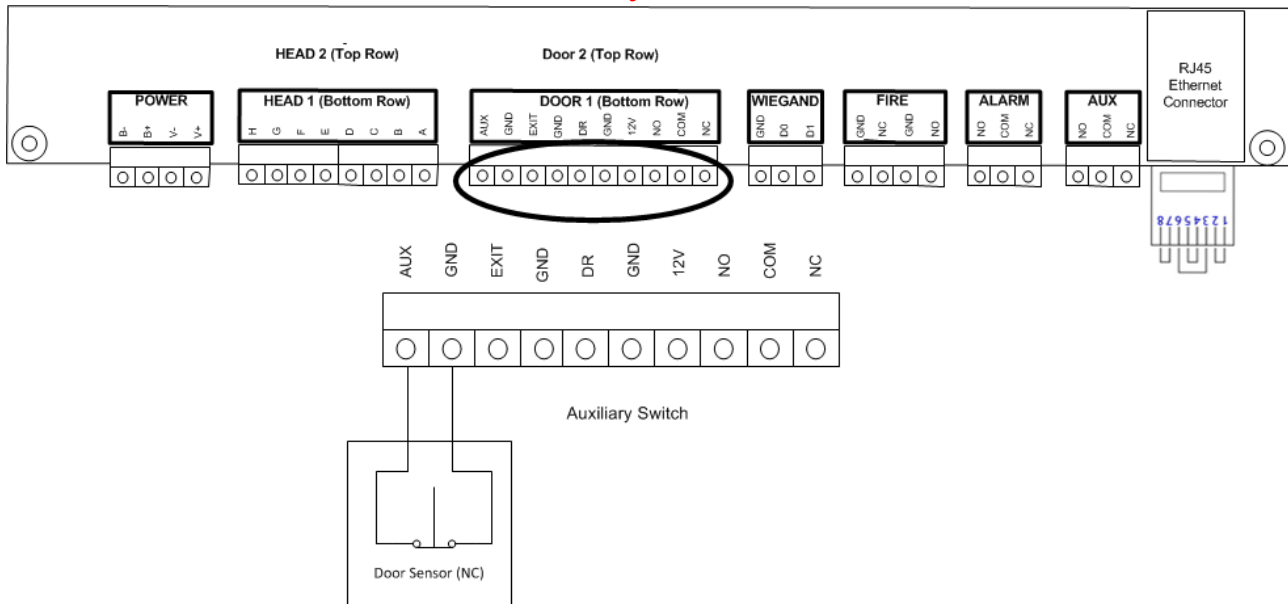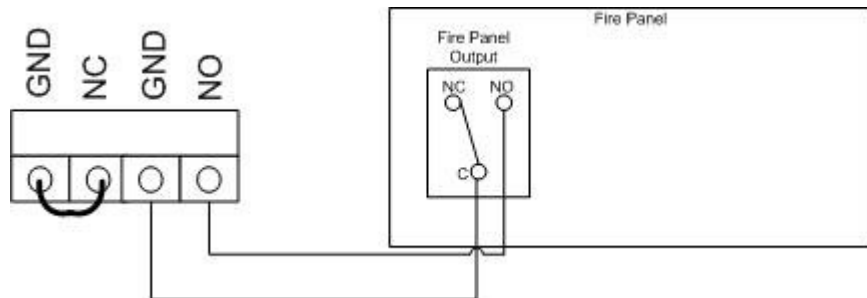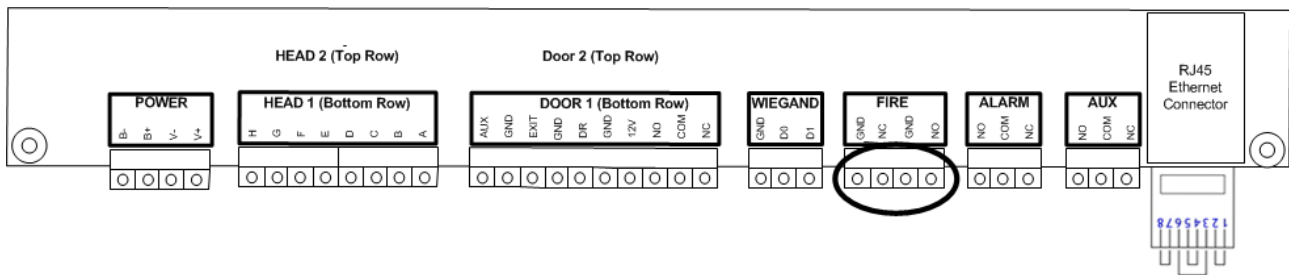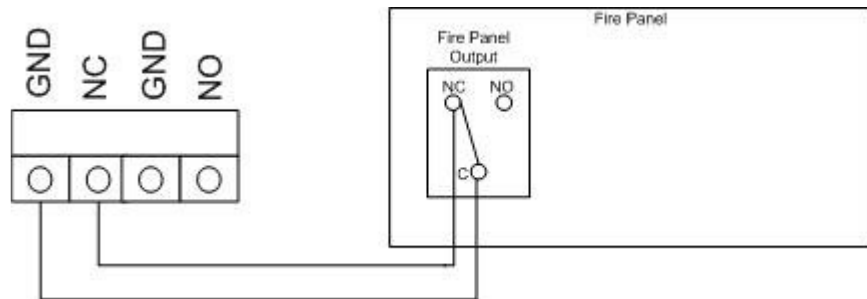
Fire Panel Integration

- Units can be connected to a fire panel so that in the event of a fire, required door(s) can automatically unlock.

- Once a door has been unlocked via the fire override inputs, the unit must be reset manually by pressing the reset button on the control unit, or issuing a reset from the DAS-SQL software. Doors will remain unlocked until the unit has been reset.

- Through the DAS-SQL software, it's possible to configure whether Door 1, Door 2 or both doors will unlock in the event of a fire.

It the fire-override feature has been enabled, run adequate tests to ensure that feature is configured and working as intended.
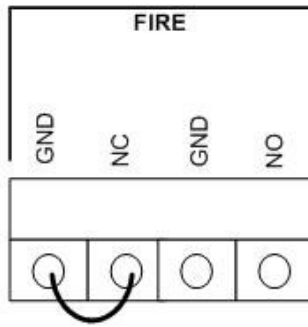
- The diagram shows how to connect a control unit to a fire panel. The unit can be connect to either a normally open or normally closed set on contacts as shown below.

- Only remove the link between 0V and NC is the system is wired as follows.

If the fire panel integration is not being used, the link must remain in place as shown below.

Auxiliary Output Relay

- The db Nexus Duo unit has an auxiliary output relay that can be used to trigger external devices, following a event occurring on the db Nexus Duo unit.

- Configured via the DAS-SQL software, the auxiliary relay can be set to operate for events such as "Access Granted" or "Access Denied". The relay could be used a start a camera for example.

- Connect the auxiliary output relay as shown below.
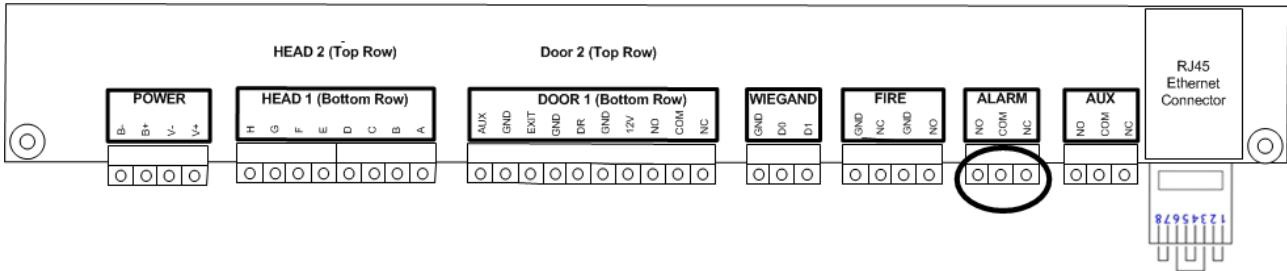
Alarm Output Relay

- Certain conditions that occur on the db Nexus Duo unit will cause the Alarm Relay to operate. The Alarm Relay can be used to interface the control unit with a 3rd party system. When one of the following conditions happen, the 3rd party system will be alerted.

- The following will send an alarm alert:
  - Tamper detected on the head unit
  - A forced door or forced auxiliary switch
  - A door or auxiliary switch being propped open
  - The duress feature being activate
  - A tamper detected on the door sensor circuit
  - A tamper detected on the auxiliary sensors circuits

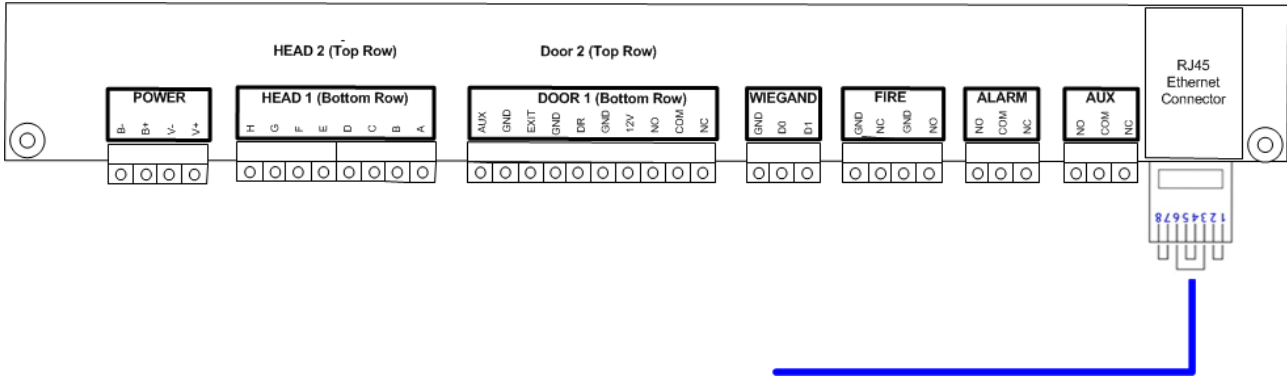- The alarm relay is connected as per the diagram below.
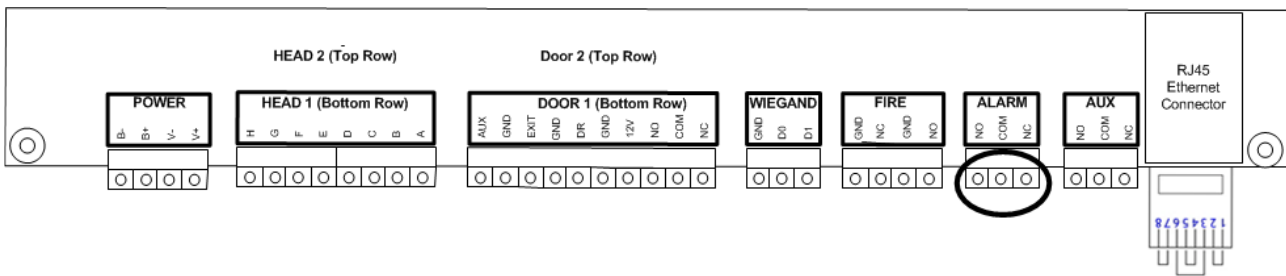
Wiegand Output (26-bit protocol)

- The db Nexus Duo controller offers a 26-bit Wiegand output, allowing seamless integration into 3rd-party Access Control System.

- The diagram shows how to connect a control unit to a 3rd-party system.
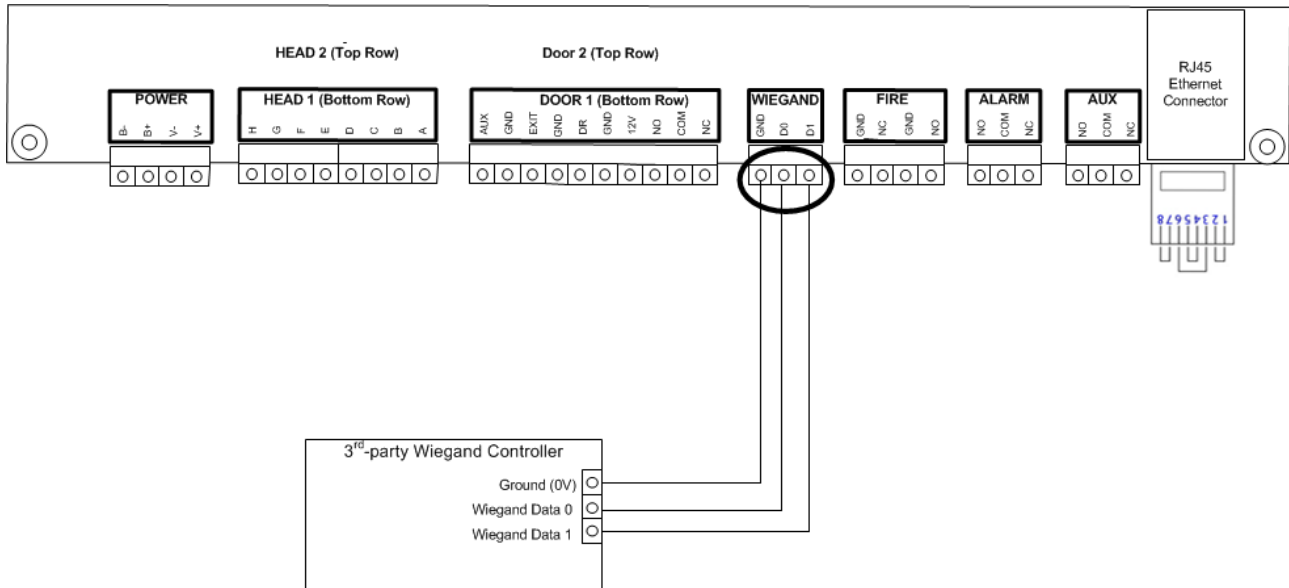
Network Connection

- If the unit is networked, connect the RJ-45 plug as shown below.

Powering Up the Unit

- Plug the transformer in to the power outlet and ensure the supply is switched on.

- The unit should now power up. If not, unplug the unit and check all wiring.

- The buzzer on the control unit should sound for 1 second.

**Check the LCD display.
If the display reads "LCD CONTRAST (0-9):[0] #=DONE the unit is OK.**

- If the unit does not get to this stage, or displays a different message, check that the cable between the head unit and control unit has been wired correctly.

db
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