

Document Information

Reference	USR-190022
Title	dbBus Hardware Installation Guide
Synopsis	dbBus Hardware Installation Guide
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Creation Date	2019-Jan-21

Revisions

Rev	Date	Who	Notes
001	2019-Jan-21	David Montgomery	Initial document
002	2020-May-19	David Montgomery	Add pinout for 3pin Power Terminal Block

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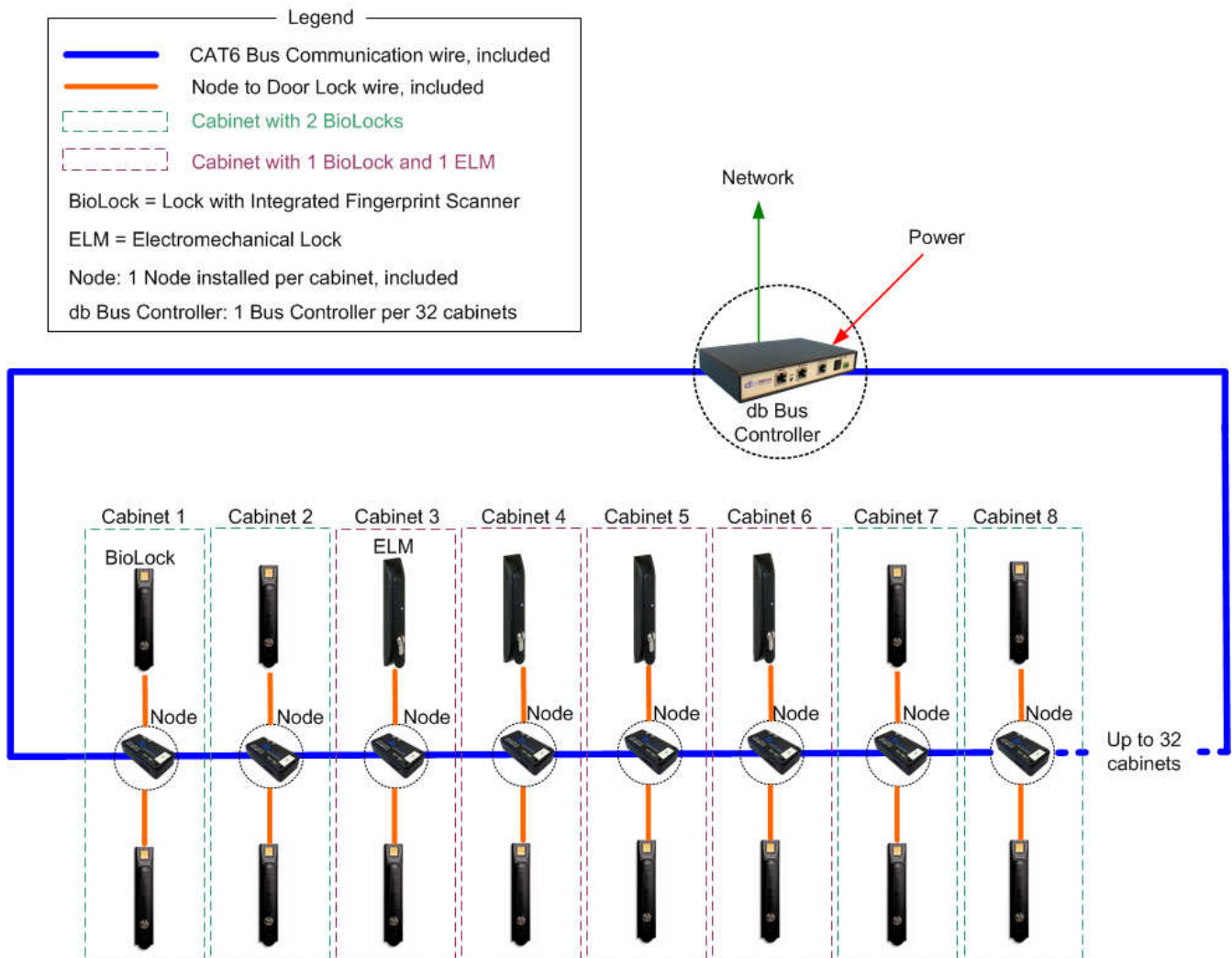
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dbBus Hardware Overview

The bus architecture consists of the following components:

dbBus – (Authentication at the cabinet)




- 1 x dbBus Controller per 32 cabinets
- 1 x dbRemote Node per cabinet (controls access for up to 2 doors)
- 1 x dbBioLock, dbCardLock, dbCodeLock, dbKeypadLock or dbELock per door



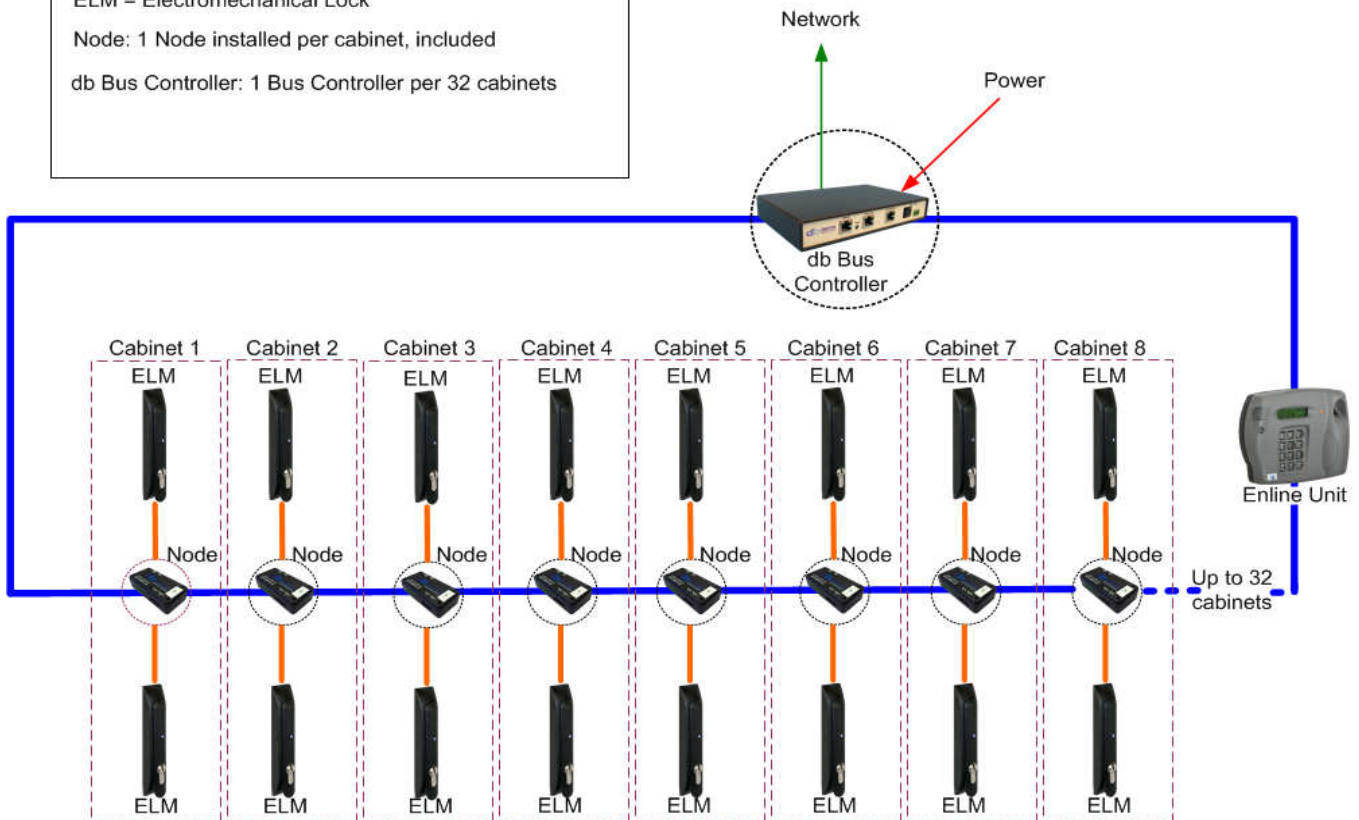
dbBus – (Authentication at the end of a row of cabinets)

- 1 x dbBus Controller per 32 cabinet/End-of-row readers
- 1 x dbRemote Node per cabinet
- 1 x dbELock (or existing lock) per door
- 1 or more dbEnline (end-of-row) unit per row of cabinets

Legend

-  CAT6 Bus Communication wire, included
-  Node to Door Lock wire, included
-  Cabinet

ELM = Electromechanical Lock
 Node: 1 Node installed per cabinet, included
 db Bus Controller: 1 Bus Controller per 32 cabinets



Mounting the dbBus Controller

- Mount the dbBus Controller using the magnetic strips for steel cabinets or VHB strips for aluminum cabinets
- Alternatively, the dbBus Controller can be placed on a cabinet shelf inside any cabinet
- It is preferable to mount the dbBus Controller near the top of the rack, to ease the running of cables, however this is not a requirement.



Figure x – Bus Controller (Front View)

The Bus Explained

The dbBus Controller is a closed-loop system with Primary and Secondary Bus ports. This provides redundancy in the event that a break (disconnect) occurs within the bus loop.

Normal Bus Operation

The bus originates at the “Primary Bus” port on the dbBus Controller and goes to the first dbRemote Nodes “Bus In” port. It then comes out of the first dbRemote Nodes “Bus Out” port and into the second dbRemote Nodes “Bus In” port. The chain continues like this through all nodes, ending back at the “Secondary Bus” port on the dbBus Controller (creating a loop).

A normal dbBus configuration operates as shown below



Figure x – Bus Communication

Split Bus Operation

In the event of a broken or detached cable, the dbBus Controller will automatically re-route communication and power to all dbRemote Nodes beyond the break via the Secondary Bus.

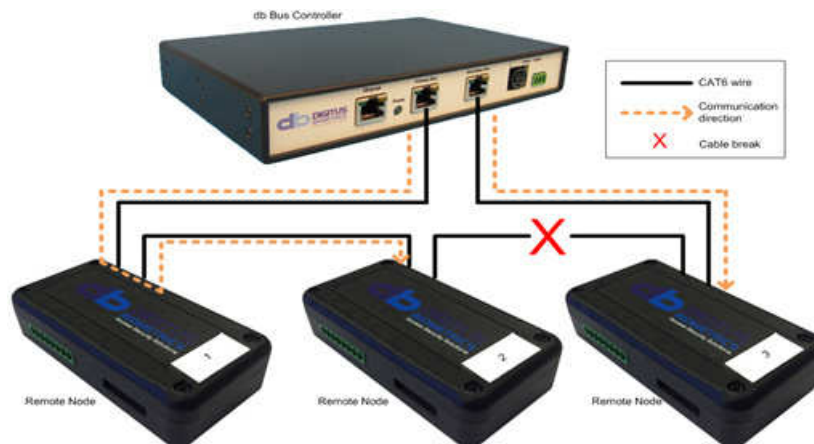


Figure x – Bus Communication (break in loop)

Suggested Wiring Configurations

In order to prevent any individual cable-length from being too long, please follow the suggested wiring configuration

The diagrams below show a top down view of a row of server cabinets.

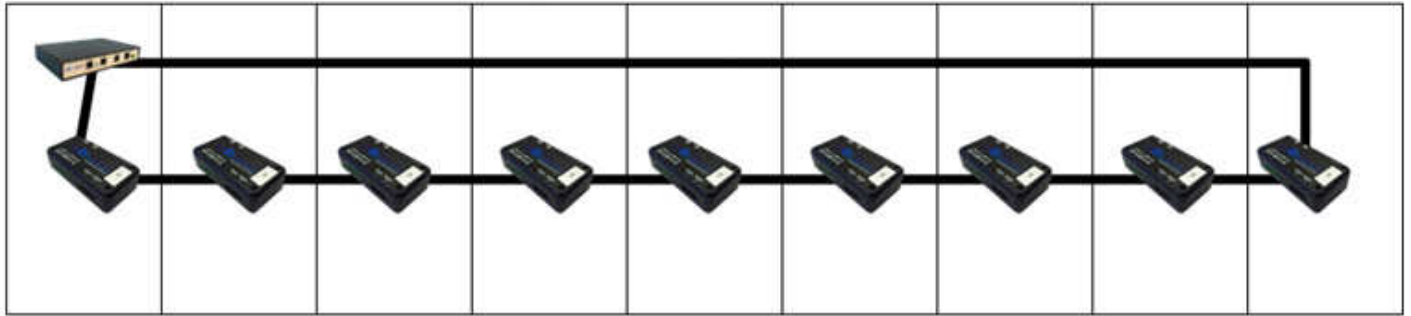


Figure x – Very long cable return, not recommended

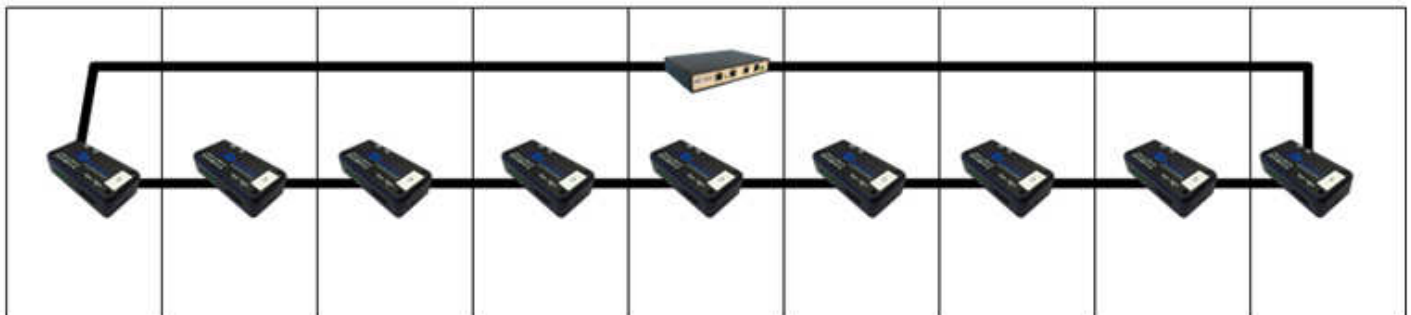


Figure x – Shorter cable returns, better option

Installing the Remote Nodes

During installation, it is critical to record the serial number and location of each dbRemote Node. The dbRemote Node serial number is used to identify each door (access point) within DAS-SQL

One dbRemote Node needs to be installed per cabinet (assuming a standard 2 door cabinet with a front and back door). The dbRemote Node is very small and compact in size, measuring just 4" x 2" x 1" (10.2cm x 5.1cm x 2.6cm) and can be installed anywhere in the cabinet using the included VHB tape strip.

The CAT5 bus cable attaches to the dbRemote Nodes using the "Bus In" and "Bus Out" ports as show below.

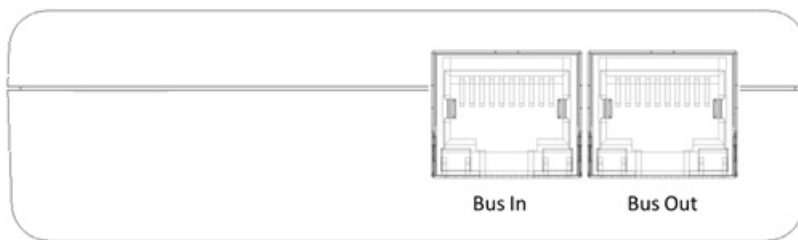


Figure x – Side view of Remote Node

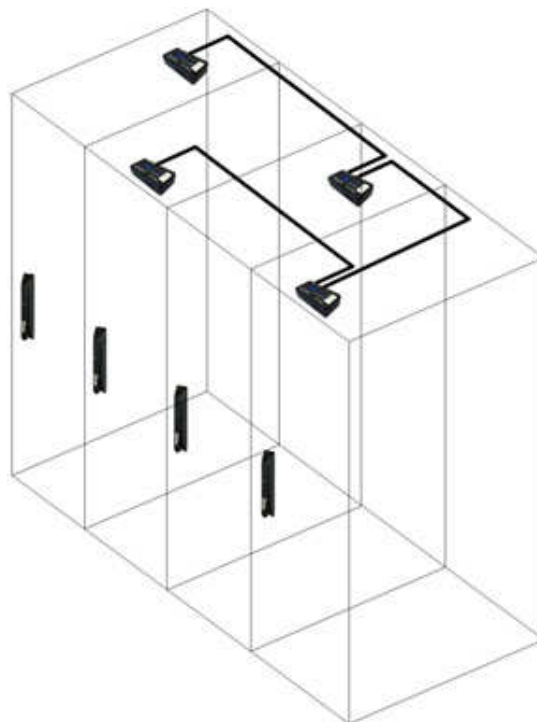


Figure x – Recommended Installation Layout of Remote Nodes

Installing the Door Contacts

- For each device (Dev 1/Dev 2) on a dbRemote Node, a set of Door Contacts can be installed, allowing the position of the door (open/closed) to be monitored.
- Use the supplied Door Contacts only

Do not use ordinary reed switches as these will cause the device to go into an alarm condition

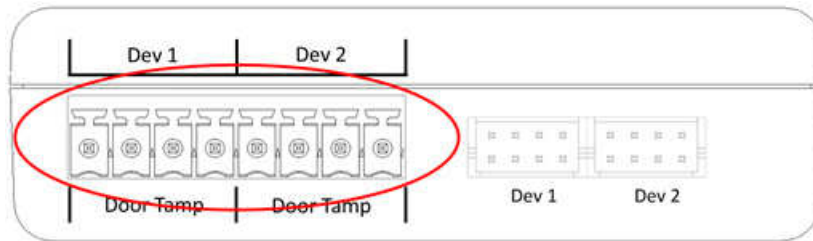


Figure x – Remote Node Door Contacts Connector

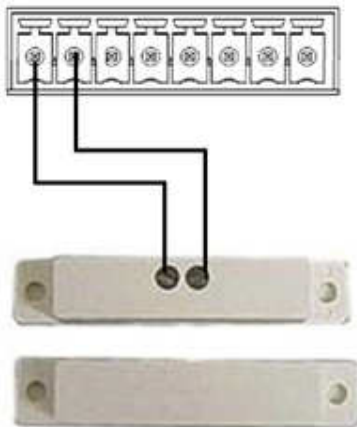


Figure x – Device 1 Door Contacts

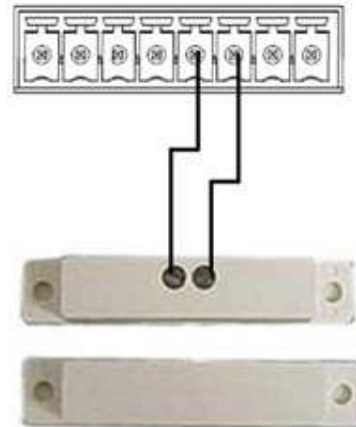


Figure x – Device 2 Door Contacts

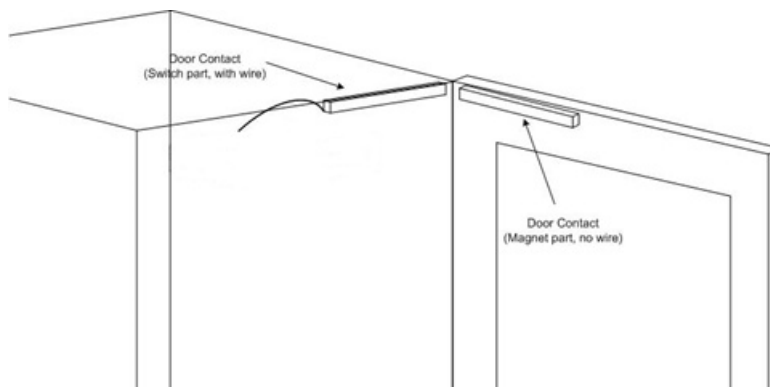


Figure x – Door Contact mounting position

Installing the Tamper Inputs

- For each device (Dev 1/Dev 2) on a Remote Node, a set of Tamper Switches can be installed. The Tamper Switches can be used on side/top panels of a cabinet. If the tamper switch opens, it will create an immediate alarm condition.
- Use the supplied Tamper Switches only.

Do not use ordinary reed switches as these will cause the device to go into an alarm condition.

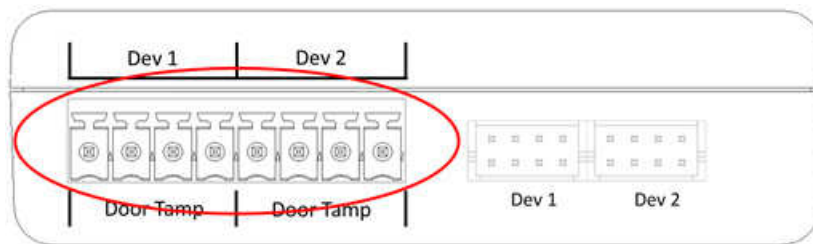


Figure x – Remote Node Door Tamper Contacts Connector

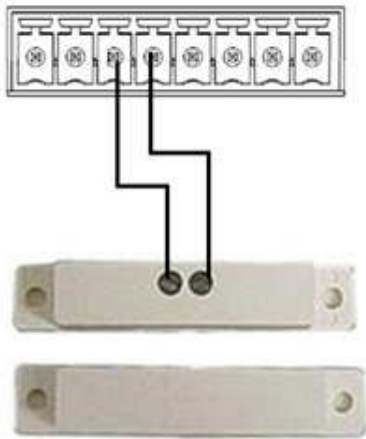


Figure x – Device 1 Tamper Contacts

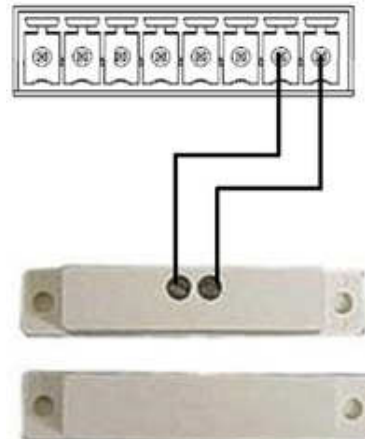


Figure x – Device 2 Tamper Contacts

Attaching Devices

Devices (handles) are connected to the Remote Node using the sockets circled in the diagram below.

Each dbRemote Node has two device inputs, Dev 1 and Dev 2.

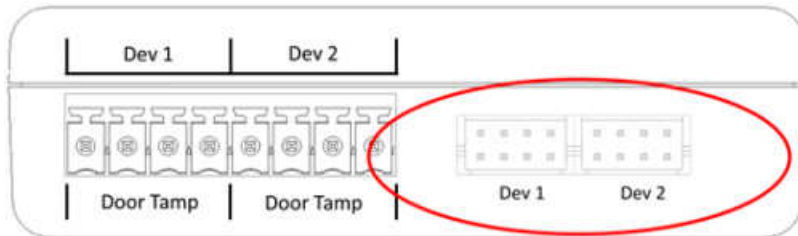


Figure x – Remote Node Device Connectors

Instructions for installing devices are included with each device.

Connecting the dbBus Controller to a Network

Connect a CAT6 cable from your network to the dbBus Controller Ethernet Port as shown below.

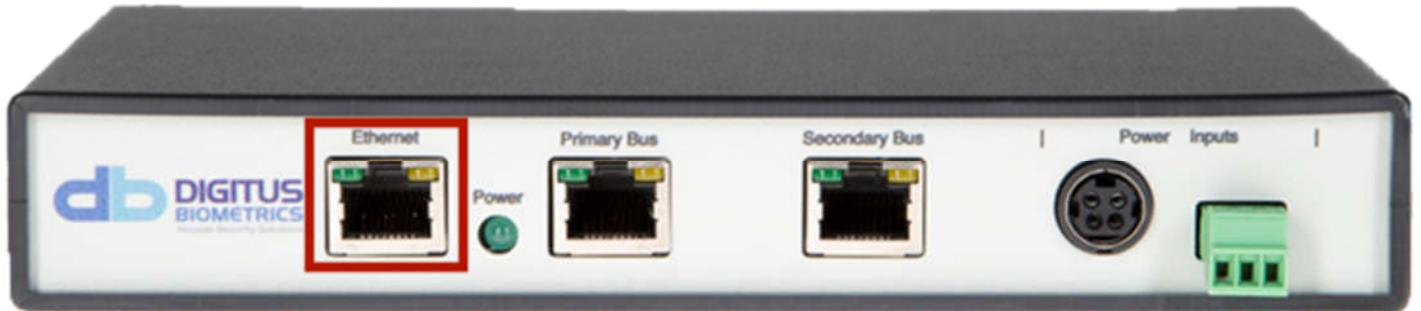


Figure x - Attach network cable to the Bus Controller

Connecting the Power Supply to the dbBus Controller

Power Connection Options

There are 2 power connection options for the dbBus Controller as follows:

- Via the Digitus supplied 48vDC 4.6A Power Supply Unit (PSU) to power socket A.
- Via the customers own 48vDC 4.6A power supply using Terminal Block B.

When connecting the dbBus Controller to a power source:

- Firstly, connect the power adaptor to the dbBus Controller power socket (either A or B, not both)
- Once the power is connected to the dbBus Controller, connect the power adaptor to the power source.

Terminal Block B Pinout

Pin	Description
1	+48v DC
2	GND
3	Chassis Ground



Attach the power supply to the dbBus Controller before plugging the power supply into a power source.

Removing Power from the dbBus Controller

When powering the dbBus Controller down, unplug the power cord from either the power source or the power supply. Do not disconnect the power supply from the dbBus Controller.

