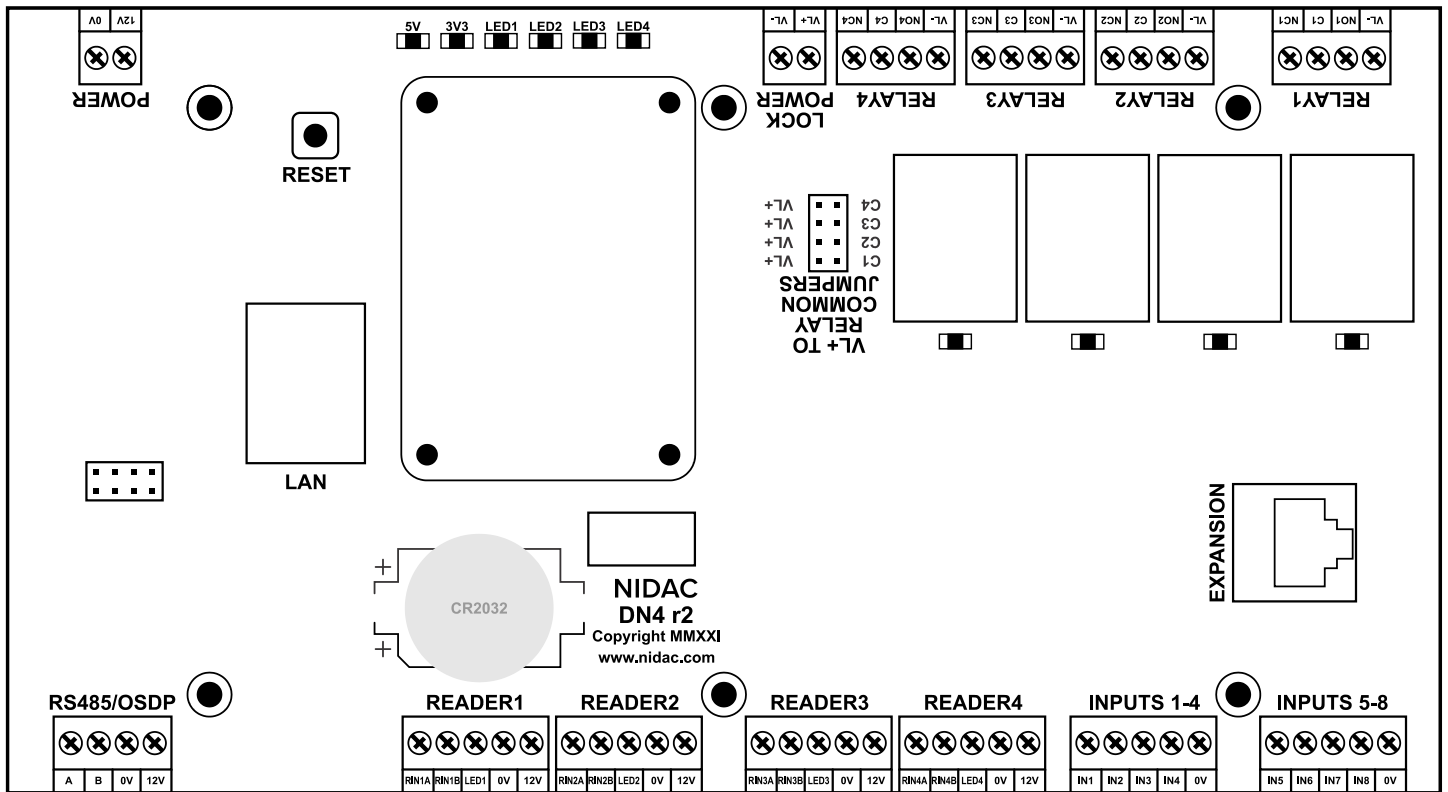


# PRESCIENT<sup>®</sup> by NIDAC

## DN4 r2 HARDWARE GUIDE

Version 1.3.2



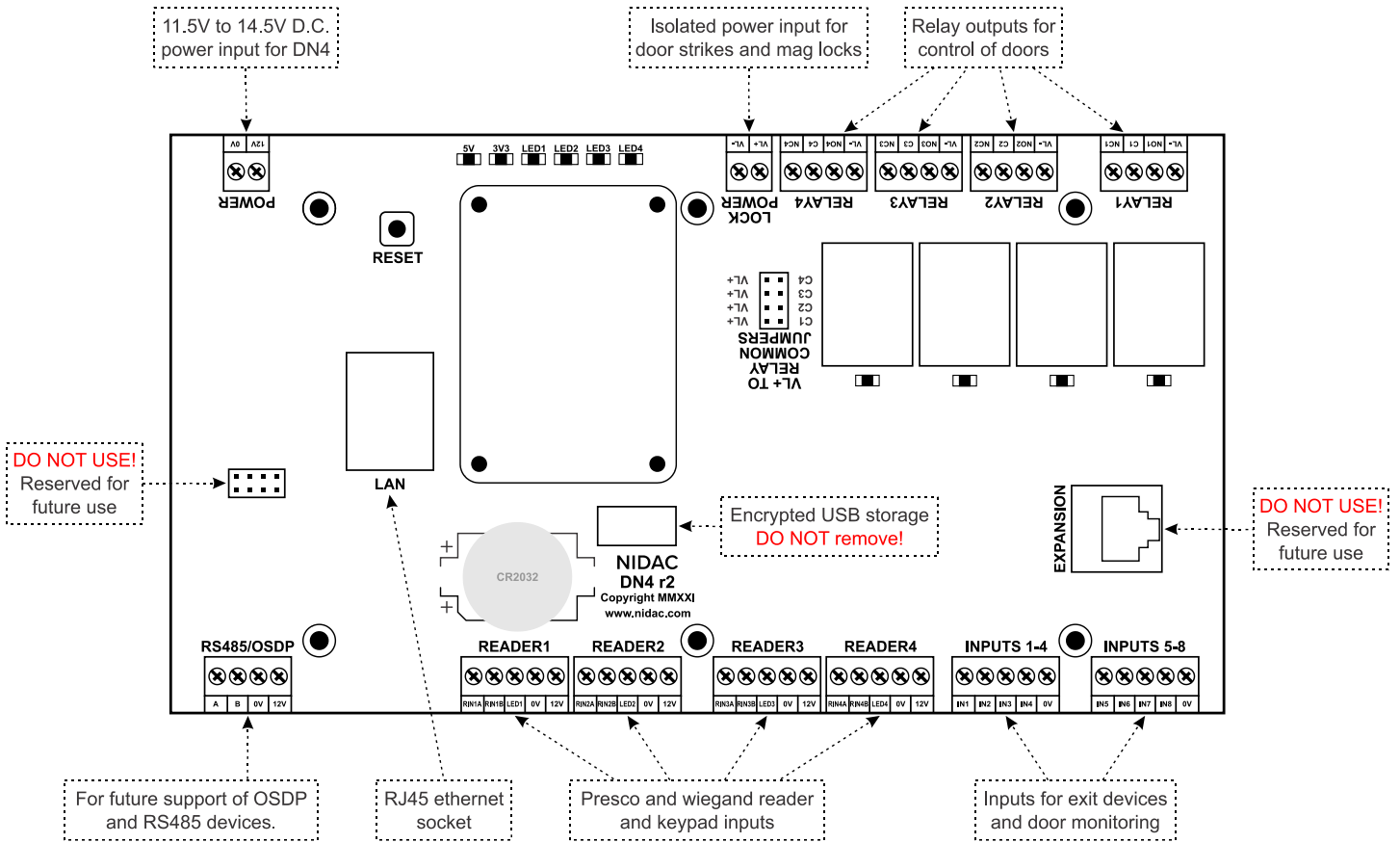
### Features

- Powerful quad-core ARM Cortex-A72 processor
- 1Gbps LAN connection
- 4 x Reader inputs for Wiegand and NIDAC Prove peripherals
- 8 x NO/NC inputs for door monitoring and request to exit
- 4 x SPDT relays for door control
- Separate isolated power input for door locking devices
- Battery backed RTC to keep system time whilst powered down

### Specifications

- Power: 11.5 to 14.5V D.C. @ 1A
- Dimensions: 195 x 107 x 31mm (W x D x H)
- Relays: 28V D.C. max, continuous 1.25A, surge 2A

**Connections**



**POWER**

12V	+11.5 to 14.5V D.C. power input for DN4
0V	Negative or GND connection from power supply

**READER1, READER2, READER3, READER4**

RINxA	Wiegand D0 data input
RINxB	Wiegand D1 or Presco DTA data input
LEDx	Reader LED control output, negative drive for Wiegand and positive for Prove peripherals
0V	Connection to 0V power input
12V	Connection to 12V power input

**INPUTS 1-4, INPUTS 5-8**

INx	Selectable as NO or NC door monitoring or request to exit inputs
0V	Connection to 0V power input

**LOCK POWER**

VL+	Positive connection from power supply for door locking devices
VL-	Negative or GND connection from power supply for door locking devices

**RELAY1, RELAY2, RELAY3, RELAY4**

VL-	Connection to VL- power input, to be used as negative connection on door locking device
NOx	Normally Open relay contact for fail secure door release devices
Cx	Common relay contact, can be voltage free or connected to VL+ via jumpers
NCx	Normally Closed relay contact for fail safe door locking devices

**RS485/OSDP**

Use of this connection is not currently implemented but has been provided for future support of RS485 and OSDP peripherals.

**Reset Button**

To reboot the DN4 press and hold for between 3 and 10 seconds then release.

To perform network reset press and hold for between 10 and 15 seconds then release.

To perform password reset press and hold for between 15 and 20 seconds then release.

To perform a factory reset press and hold for between 20 and 30 seconds then release.

Holding the button pressed for more than 30 seconds will cancel the reboot/reset.

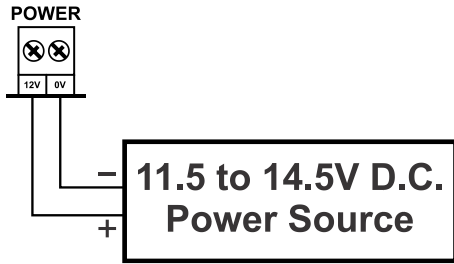
**Indicators**

5V	Indicates the onboard 5V regulator is providing power to internal circuitry. If it is unlit check the power to the DN4
3V3	Indicates onboard 3V3 power is present for the ARM processor. If it is unlit but the 5V LED is on power cycle the DN4
LED1	Indicates the DN4 controller is accessing memory

LED2	LED3	LED4	
off	off	off	Normal operating mode, no reboot or reset pending
ON	off	off	The DN4 will reboot when the reset button is released
off	ON	off	The DN4 will perform network reset when the reset button is released
off	off	ON	The DN4 will perform password reset when the reset button is released
ON	ON	ON	The DN4 will perform a factory reset when the reset button is released

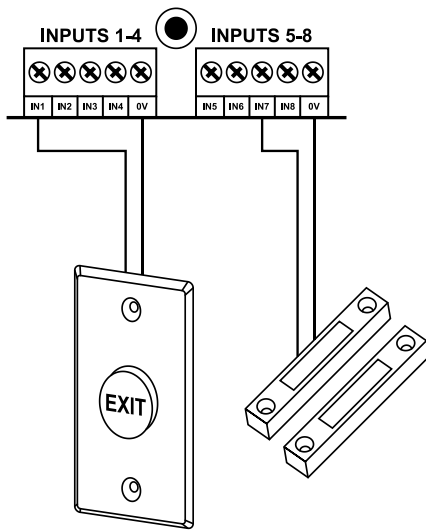
## Power Wiring

A battery backed 13.8V D.C. power supply is recommended.



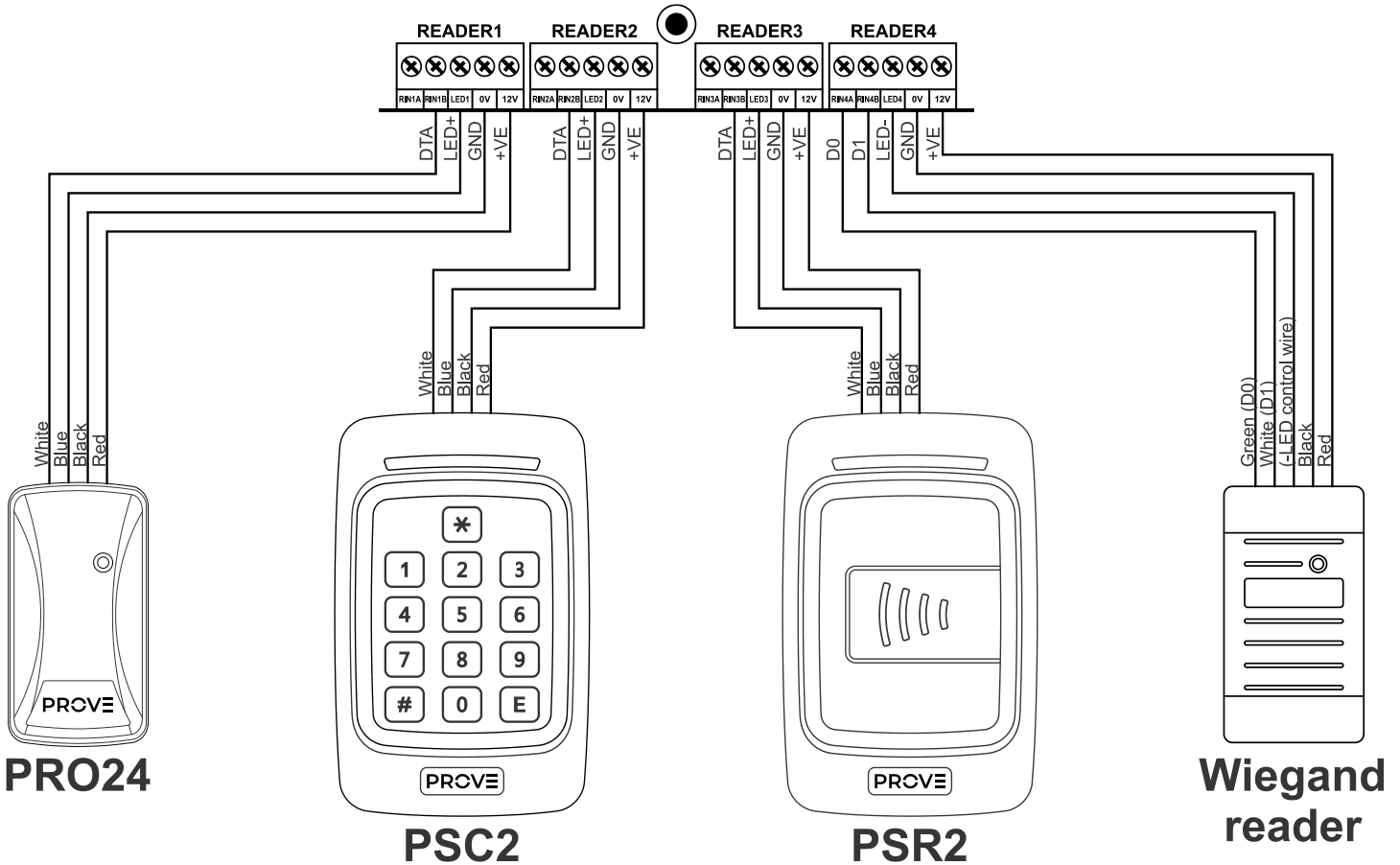
## Input Wiring

All inputs can be used for either exit buttons or door monitoring, each is selectable as NO or NC to match the device being used.



## Reader Wiring

All reader inputs can accept either Wiegand or Prove peripherals.



## Reader Cabling Distances

Device	Cable type	Max length
Wiegand	7/020 shielded cable. 4 core for reader only. 6 core for reader + LED control. Ground the shield at DN4 end only.	100m
Prove PSK2 keypad	7/020 unshielded cable. 2 core (figure 8) for data only, no LED control. 4 core for PSK2 with LED control.	1000m
Prove PSE keypad without backlighting	2 core (figure 8) 7/020 unshielded cable.	1000m
Prove PSE keypad with backlighting	4 core 7/020 unshielded cable. <b>NOTE</b> decreased distance is due to extra current drawn by backlighting. 4 core 14/020 unshielded cable.	500m 1000m
Prove PRO24, PSC2 or PSR2 proximity reader	4 core 7/020 unshielded cable. 4 core 14/020 unshielded cable. <b>NOTE</b> decreased distance is due to extra current drawn by powering the reader.	350m 800m
Prove VR43 or VR62 keypad.	4 core 7/020 unshielded cable. 4 core 14/020 unshielded cable. <b>NOTE</b> decreased distance is due to extra current drawn by powering the keypad.	350m 800m

**NOTE** all distances are based on a supply voltage of 12.0V D.C. at the DN4.

## VL+ to Relay Common Jumpers

### VL+ TO RELAY COMMON JUMPERS

C1	<input type="checkbox"/>	VL+
C2	<input checked="" type="checkbox"/>	VL+
C3	<input type="checkbox"/>	VL+
C4	<input checked="" type="checkbox"/>	VL+

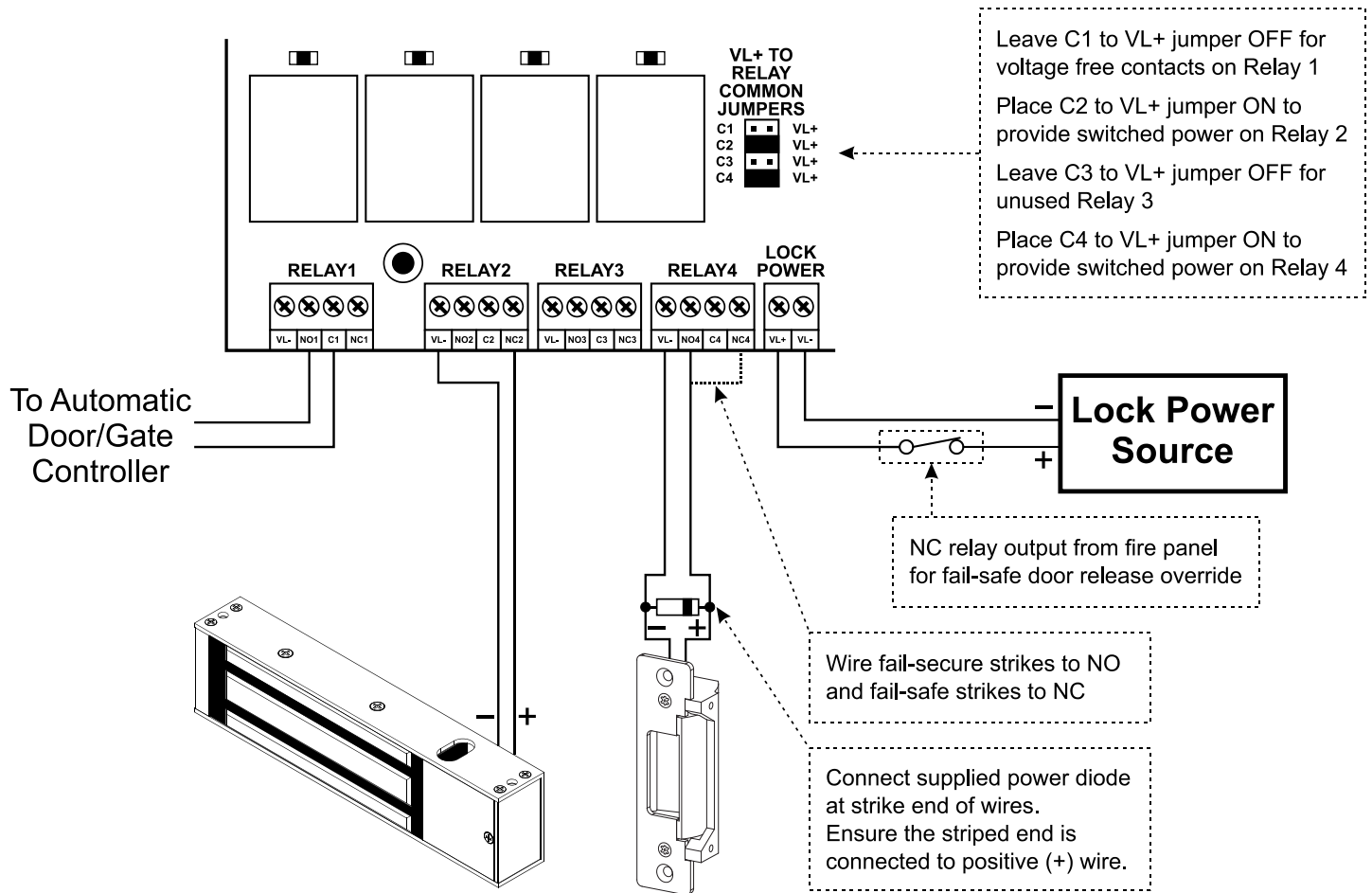
Place a jumper over the C1-C4 and adjacent VL+ pin to connect the VL+ power input to the common contact of the associated relay.

This allows for easier wiring of powered door locking devices.

**WARNING** do not use a jumper to connect adjacent Cx pins as this can lead to undesired interaction between doors.

## Door Lock Wiring

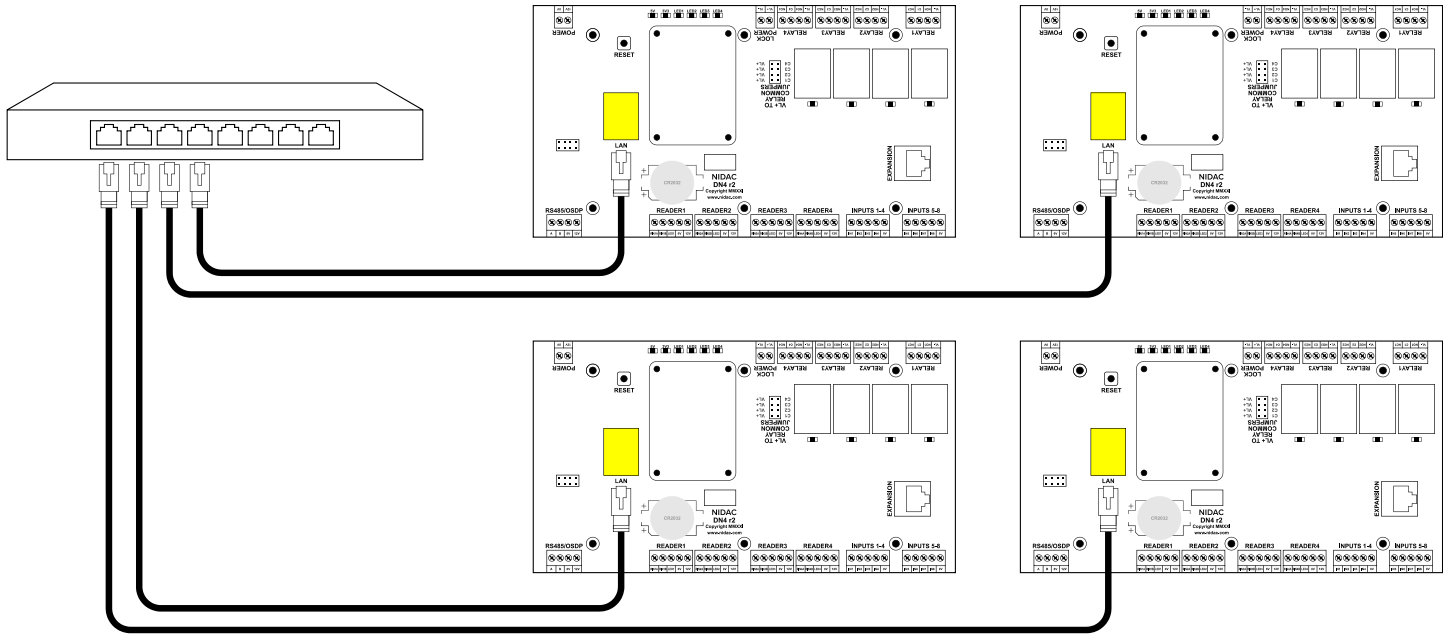
A separate power supply or separate fused power output is recommended for the lock power.



## Network Requirements

The DN4 requires a connection to a network with the following features

- 100/1000Mbps wired ethernet connection for each DN4
- Internet access to public NTP servers
- Multiple DN4s for a site are required to be on the same IPv4 subnet
- IPv4 DHCP server is highly recommended to reduce network traffic





Designed and manufactured by

**NIDAC Pty Ltd**  
2 Cromwell Street  
Burwood Victoria  
Australia 3125

+61 3 9808 6244  
[www.nidac.com](http://www.nidac.com)  
[sales@nidac.com](mailto:sales@nidac.com)