

# Concept 4000 / 5000

## PLUGON READER EXPANDER BOARD for Intelligent 2 Door Access Module.

P/N: 995037PCB&K

### INSTALLATION MANUAL

#### **Overview:**

The Plugon Reader Expander plugs on to the Intelligent 2-Door Access Module or the 2-Door Expander Board to provide two additional Reader interface ports and associated “Arm” button inputs.

**NOTE: Reader Programming.** The Reader Ports on the Plugon Reader Expander Board are labelled “Reader A” and “Reader B”. When programming the options for these Reader Ports in IFDAM/I2DAM programming (MENU, 7, 2, 8), the following Reader numbers are used:

<u>When plugged onto:</u>	<u>Reader A</u>	<u>Reader B</u>
An Intelligent 2-Door Access Module.	Reader 5	Reader 6
A 2-Door Expander board.	Reader 7	Reader 8

#### **Parts List**

- Plugon Reader Expander PCB.
- Installation Kit containing:
  - 4 x 16mm Locking Plastic PCB Standoffs.
  - 2 x 6 Way plug-on screw terminals.
  - 2 x Jumper Links. (Spare)
  - 1 x 500mA Fuses. (Spare)
- Installation Manual. (This document)

#### **Specifications**

Power Supply Input: Derived from host Intelligent 2 Door Access Module or host 2-Door Expander Board.

Reader Head Supply O/P: 5V or 12V DC. 300mA maximum per Reader.

Current Consumption: 20mA (NOT including Reader current.)

NOTE: Allow 50 to 120mA for small Prox Reader (~10cm range)

Allow 120 to 180mA for standard Prox Reader (~15cm range)

These values are approximations only. See information supplied with Reader for actual current consumption.

Fuse Protection.

Reader Power: 500mA. Fast Blow. M205 (20mm)

Note: Total combined current required by all devices connected to the Intelligent 2 Door Access Module must not exceed 2A.  
ALWAYS REPLACE FUSES WITH THE SAME FUSE VALUE!

Operating Environment: 0° to 50° Celsius and 15% to 80% Relative humidity (non-condensing)

## **INSTALLING THE PLUGON READER EXPANDER**

- 1) Disconnect the Power Supply Input and Battery from the Intelligent 2-Door Access Module.
- 2) If the Jumper links for Reader Data format, Supply voltage, Data voltage and Mode on the host board have not already been fitted, do this before proceeding to fit the Plugon Reader Expander.
- 3) Four plastic 16mm locking PCB standoffs are provided in the Plugon Reader Expander installation kit. Insert the larger diameter end of the standoffs into the 4 mounting holes provided on the host board.  
NOTE: All of the standoffs MUST BE FITTED.
- 4) Fit the Plugon Reader Expander onto the Host board. *See drawings on page 3.*
  - a) Connect **JP1** of the Plugon Reader Expander directly onto the appropriate connector on the Host Board:
    - i) Intelligent 2-Door Access Module Reader Expansion Port **JP3**. (Near T4 DET+/- and T15 ZN5-ZN8)
    - or ii) 2-Door Expander Board Reader Expansion Port **JP2**. (Near RL2)
 CAUTION. Position the connector carefully to ensure that all pins and sockets are aligned.
  - b) Ensure that the clasps on the four standoffs clip into the 4 holes provided on the Plugon Reader Expander.
- 5) Set the Jumper link options to suit the Reader specifications according to the information below.
- 6) Connect the additional Readers and Arming buttons as required. *See page 4 for details.*

### **READER OPTION LINK SETTINGS**

Before setting the Link options, refer to the information provided with the Reader for details of the supply voltage, output voltage and data format. *See drawings on page 3 for Jumper Link locations and pin numbering.*

NOTE: DO NOT remove Links from unused Reader Ports.

<b><u>LINK</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>SETTING 1-2</u></b>	<b><u>SETTING 2-3</u></b>
LK1/LK2	Reader A / B Data Format	Magnetic Swipe (CLOCK/DATA)	Wiegand (D1 / D0)
LK4/LK5	Reader A / B Mode	CRDX (Not supported at present)	DEFAULT
LK6/LK7	Reader A / B Data O/P	+5V	+12V
LK8/LK9	Reader A / B Power supply	+5V	+12V
LK3	BOOST. For +12V Reader supply only. Fit if DC Volts at either Reader Head is less than 11.5V.		

<b>EXAMPLES OF READER LINK SETTINGS</b>	<b>LK1 &amp; LK2 Format:</b>	<b>LK8 &amp; LK9 Power:</b>	<b>LK6 &amp; LK7 Data O/P:</b>	<b>LK4 &amp; LK5 Mode:</b>
	1-2 Swipe CRD 2-3 WIEG	1-2 +5V 2-3 +12V	1-2 +5V 2-3 +12V	1-2 CRDX 2-3 DEFAULT
<b>Omron Swipe / Cardlock Swipe</b>	1-2	1-2	1-2	2-3
<b>HID ProxPoint / MiniProx / ThinLine</b>	2-3	1-2	1-2	2-3
<b>HID ProxPro</b>	2-3	2-3	2-3	2-3
<b>HID Sensorkey</b>	2-3	1-2	1-2	2-3
<b>HID Swipe/Insertion/Turnstile Wiegand Readers</b>	2-3	1-2	1-2	2-3
<b>Indala. SlimLine/WallSwitch/PinProx/ ValueProx/SecureProx/MasterProx</b>	2-3	1-2	1-2	2-3
<b>Indala. Standard/ Medium Range/MasterProx (for 30cm range)</b>	2-3	2-3	2-3	2-3

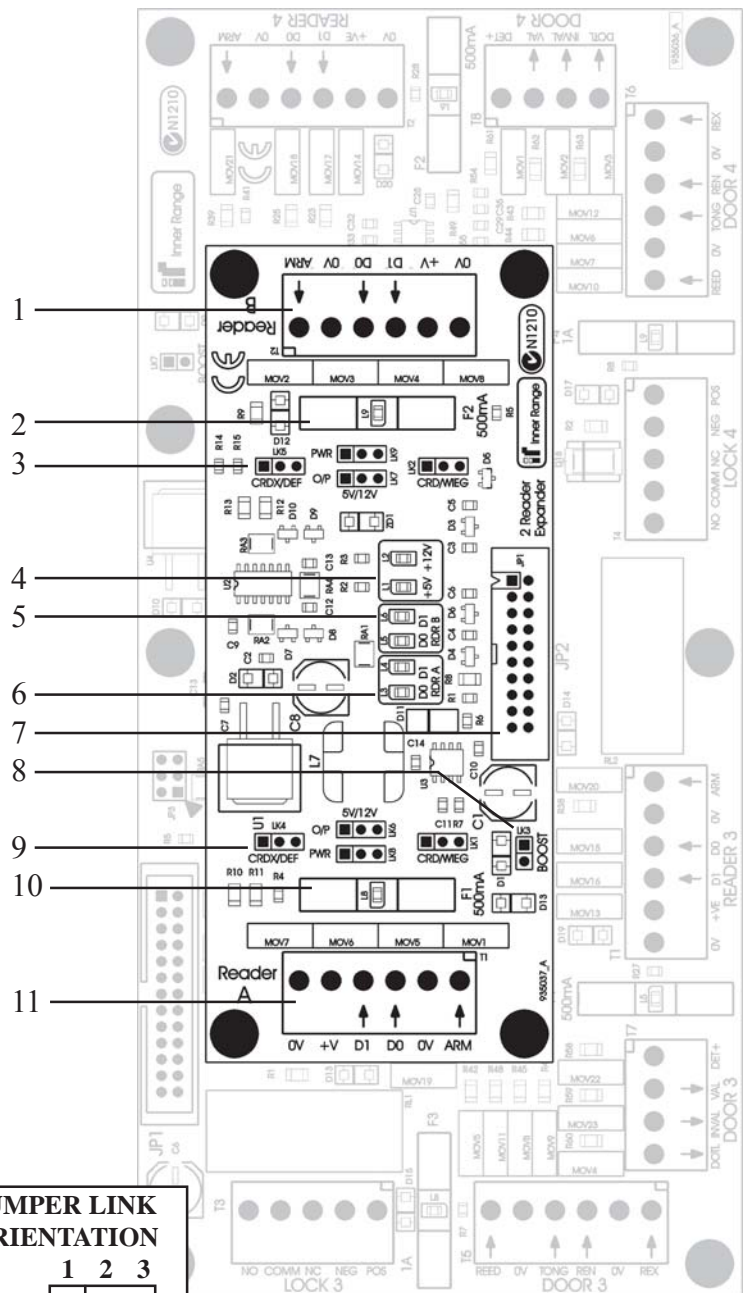
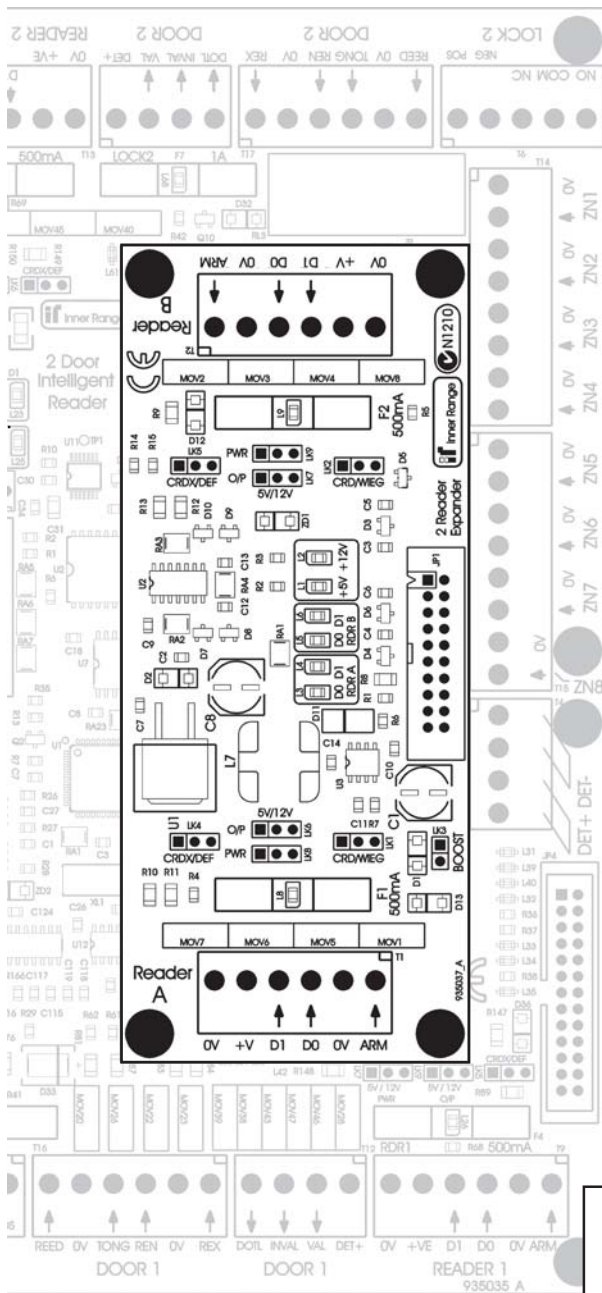
### **PLUGON READER EXPANDER LED INDICATIONS**

<b><u>LED</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>LED</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>LED</u></b>	<b><u>DESCRIPTION</u></b>
L1	+5v Supply present	L3	Reader A D0/Data indication	L3	Reader B D0/Data indication
L2	+12V Supply present	L4	Reader A D1/Clock indication	L4	Reader A D1/Clock indication

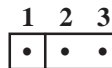
## THE PLUGON READER EXPANDER PCB

### Fitted to the Intelligent 2 Door Access Module

### Fitted to the 2 Door Expander Board



#### JUMPER LINK ORIENTATION



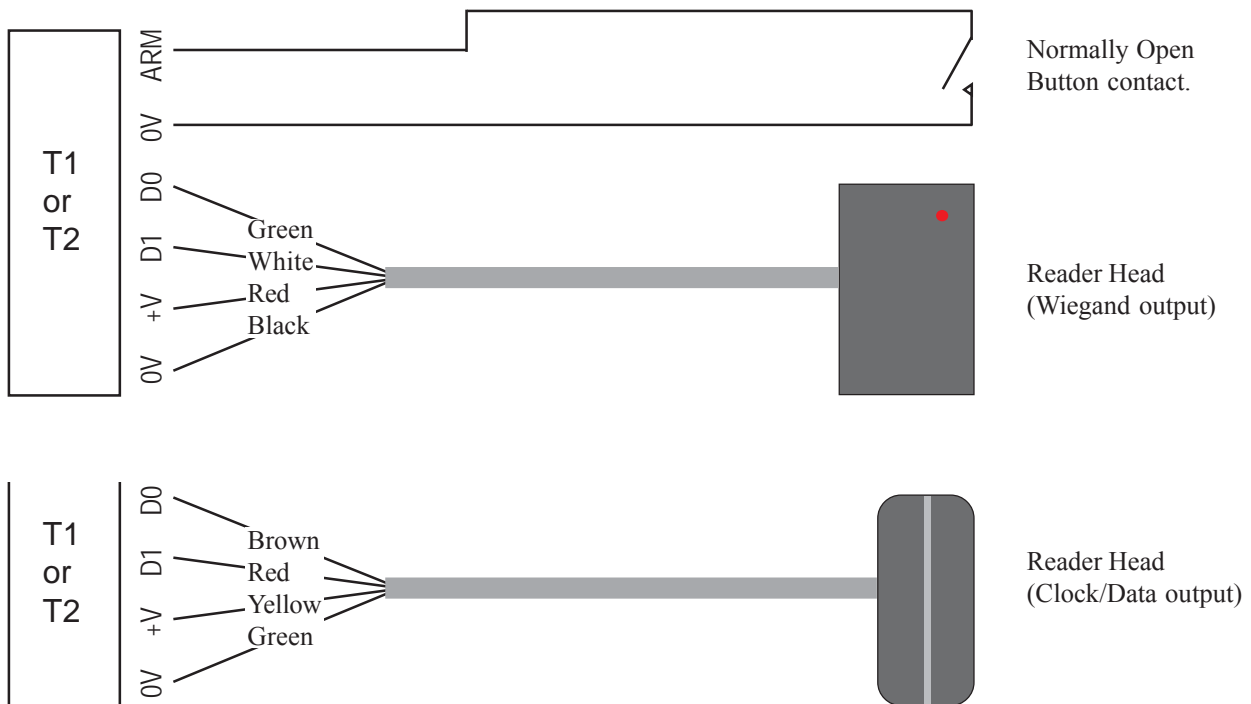
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| <p>1 Reader B / Arm Button B connections.<br/><i>See Wiring details on page 4.</i></p> <p>2 Reader B Fuse. 500mA Fast Blow M205.</p> <p>3 Reader B Format/Voltage/Mode Links.<br/><i>See details on page 2.</i></p> <p>4 +5V/+12V Power Supply OK indication.</p> <p>5 Reader B Data indication.</p> <p>6 Reader A Data indication.</p> | <p>7 JP1 Plugon Reader Expansion Port connection.<br/><i>See details on page 2.</i></p> <p>8 BOOST Link for 12V Readers.<br/><i>See details on page 2.</i></p> <p>9 Reader A Format/Voltage/Mode Links.<br/><i>See details on page 2.</i></p> <p>10 Reader A Fuse. 500mA Fast Blow M205.</p> <p>11 Reader A / Arm Button A connections.<br/><i>See Wiring details on page 4.</i></p> |
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## Wiring Instructions.

### READER AND ARM BUTTON INPUT WIRING.

**READER:** Before connecting the Reader, refer to the information provided with the Reader for wiring details. Reader Head +V (Positive supply), 0V (Negative supply), D1 (or Clock) and D0 (or Data) are connected to Terminal T1 or T2 on the Plugon Reader Expander as shown below.  
**CAUTION:** Wire colors shown are typical but may vary depending on the Reader manufacturer. Connections for Reader LED and/or Beeper are provided on the host board.

**ARM BUTTON:** A *Normally Open* Arm Button can be wired as shown below. (End-of-line resistors are not used)



### READER WIRING EXAMPLES

READER	0V	+VE	D1 CLK	D0 DATA
Omron Swipe	green	yellow	red	brown
HID Proximity/iClass / HID Sensorkey / Indala Proximity / Inner Range Secure40	black/shield	red	white	green
HID Classic Swipe/Insertion/Epic Wiegand Card Reader (Units may have flying leads OR screw terminals)	black/shield GND	red +VE	white Data 1	green Data 0

### Disclaimer:

1. The manufacturer &/or it's agents take no responsibility for any damage, financial loss or injury caused to any equipment, property or persons resulting from the correct or incorrect use of the Model 3000/4000 system or it's peripherals. The purchaser assumes all responsibility in the use of the Model 3000/4000 system and it's peripherals.
  2. While every effort has been made to ensure the accuracy of this manual, the manufacturer and/or its agents assume no responsibility or liability for any errors or omissions.
- Due to ongoing development, this manual is subject to change without notice.