

## Electrical Specifications

Power Supply Input: 11V to 14V DC

Current Consumption. 60mA standby.  
210mA max. with lock relays & LED outputs all active.  
(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 general approximations.

See information supplied with Reader for actual current consumption.

Lock Relay Contact Rating: 5 Amps @ 30VDC.

Fuse Protection: 500mA (LAN +VE, T5 +VE and T3 +VE)  
Total combined current required by devices connected to these  
three +VE terminals must not exceed 400mA.  
ALWAYS REPLACE WITH SAME FUSE VALUE!

## Reader Module Fault LEDs

RX	TX	EXPLANATION / REMEDY
ON	ON	Module is un-addressed.
OFF	ON	Module type unknown. Firmware upgrade required to Control Module.
Flash	ON	Duplicate Module. This module number is already in use by a module of the same type.
Flash	Flash	Module number selected is too big for Control Module RAM size. Select a lower Module number.
ON	OFF	Too many modules on Network for Control Module RAM size.

## IMPORTANT NOTE: Programming

LOCK RELAY AUXILIARY NUMBERS:

Lock 1 Relay (RLY1)	Rxx:X01
Lock 2 Relay (RLY2).	In 2 Door Mode, Relay 2 is addressable as: Rxx:X04 In Single Door Mode, Relay 2 is addressable as: Rxx:X06

Due to on-going product development this manual is subject to change without notice.  
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# Model 3000 / Access 4000

## Two Door Access Module. P/N: 995012 & 995012ENH

# INSTALLATION MANUAL

## Overview

The Two Door Access Module is designed to provide Interfacing for two Reader heads along with all input and output requirements for the control and monitoring of:

- A Single Door using Entry and/or Exit Readers with Entry/Exit button options, OR
  - Two separate Doors each using one Reader only, with Exit button options.
- Single Door or 2 Door Mode is selectable in the Reader Module programming options.

**Versions:** **995012.** Standard version supporting up to 31 Backup Cards.  
**995012ENH.** Enhanced version supporting up to 127 Backup Cards.

**Note:** Control Module firmware must be V3.56 or later to support more than 15 Backup Cards.

The versatile hardware and firmware design allows for each Reader to be configured independently, even allowing for mixed reader technologies to be used on the same module. Heavy duty relays are provided on-board for lock switching, along with Auxiliary outputs for "Valid", "Invalid" and/or "Door Open Too Long Warning\*" to control Reader LEDs and/or Buzzers. (V3 or later Control Module firmware required)

Simple Programming options allow for Door Access Control to be integrated with Area On/Off Control where required. Access Control processing utilizes the Door Contacts and/or Tongue Sense inputs to provide "Door Forced" and "Door Open Too Long" alarms and spare Zone inputs are available for PIRs, PE beams, and other detection devices.

## Installing the Reader Module.

### Reader Module Parts List

- Reader Module PCB assembly in metal enclosure.
- Installation Manual. (This document)
- Installation Kit in Plastic bag containing:
  - 10 x 2k2 End-of-line resistors. (red-red-black-brown-brown)
  - 10 x 6k8 End-of-line resistors. (blue-grey-black-brown-brown)
  - 2 x 1N4004 protection diodes. (For connecting across lock strike)
  - 6 x Plastic "D" Bungs for unused cutouts in enclosure cover.
- 1 x Tamper switch.
- 1 x Tamper switch mounting bracket.
- 2 x 6.3mm Tamper switch connectors.
- 2 x 4.8mm Battery terminal connectors.
- 1 x 8 Way Plug on Screw Terminals.
- 4 x 3 Way Plug on Screw Terminals.
- 2 x 6 Way Plug on Screw Terminals.
- 8 x 2 Way Plug on Screw Terminals.
- 1 x 500mA Amp Fuse. (Spare)

### Mounting the Unit

Installation environment should be maintained at a temperature of 0° to 40° Celsius and 15% to 85% Relative humidity (non-condensing)

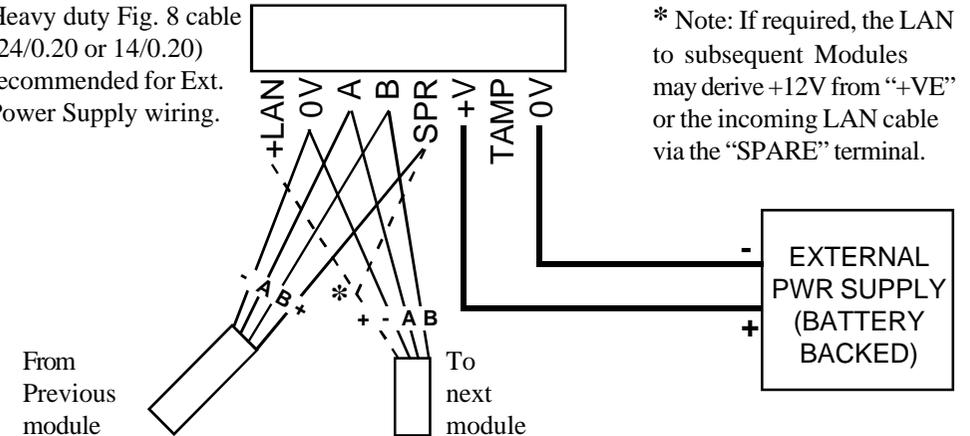
Enclosure physical dimensions: L: 306mm W: 140mm D: 72mm

1. The Reader Module is supplied in a metal enclosure which can be mounted in a convenient location using fasteners through the four mounting holes in the base.
2. The "Normally Closed" Tamper Switch is inserted into the hole provided in the Tamper switch bracket. The Tamper Switch bracket must then be positioned in either of the two slots provided in the chassis before the chassis is mounted on the wall. The Tamper switch is wired between the "TAMP" and "0V" terminals on T1. (Switch is Open cct when plunger depressed)
3. The Module Number is set using DIPswitches 1 to 7 as required. *See table on page 3.*
4. Door Reed and Zone Inputs are wired using the End-of-Line (EOL) Resistors. REN, REX & ARM button Inputs are wired to the Normally Open contact of the button, while the COMMON contact is connected to GND. EOL resistors are not required. *See wiring diagram on page 7.*

### LAN and Power Supply Wiring

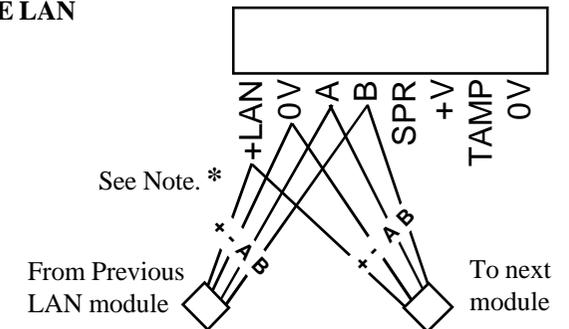
#### MODULE POWERED FROM EXTERNAL SUPPLY (Recommended)

Heavy duty Fig. 8 cable (24/0.20 or 14/0.20) recommended for Ext. Power Supply wiring.



#### MODULE POWERED FROM THE LAN

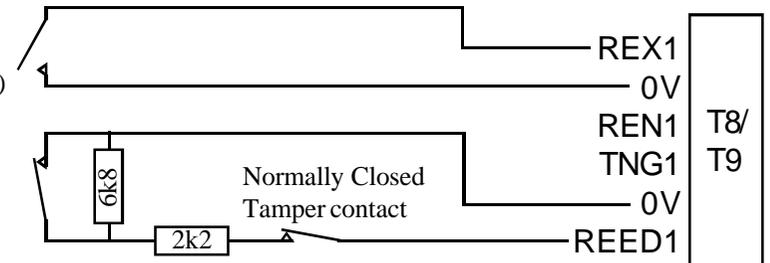
\* Note: If both "LAN +VE" wires provide a Power supply source, the one that is not required to power the Reader Module must be connected to "SPARE"



#### ZONE INPUT AND BUTTON WIRING

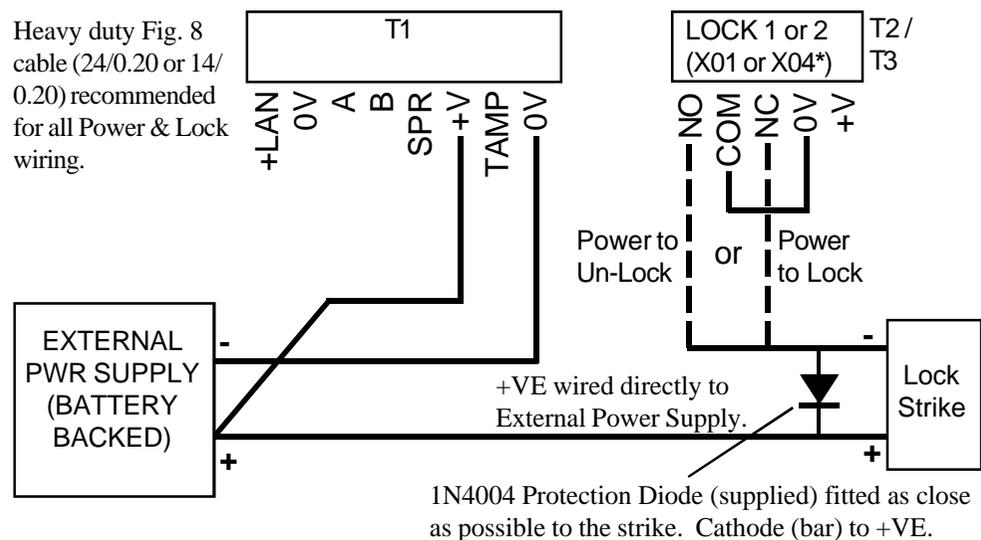
Normally Open Button contact. (REX / REN / ARM)

Norm. Closed Alarm contact. (REED / TONGUE)



## Lock Wiring

Heavy duty Fig. 8 cable (24/0.20 or 14/0.20) recommended for all Power & Lock wiring.



\* See Programming Notes on page 8.

## Reader Wiring

READER	D0 R#	D1 R#	+VE	GND
Omron Swipe	brown (Data)	red (Clock)	yellow	green
HID ProxPoint / MiniProx/ThinLine/ProxPro	green	white	red	black/shield
HID Sensorkey	green	white	red	black/shield
HID Classic Swipe/Insertion/Epic Wiegand Card Reader (Units may have flying leads OR screw terminals)	green Data 0	white Data 1	red +VE	black/shield GND
Motorola Indala	green	white	red	black/shield

NOTE: The LED control wires provided on Proximity and Wiegand readers can normally be wired directly to the VALID / INVALID / DOTL outputs on the Reader Module.

(The dropping resistor is usually built in to the reader)

Check information supplied with the Reader for LED control details before connecting.

## Module Numbering

The Reader Module number is set using DIPswitches 1 to 7. The Module number equals  $n + 1$ , where  $n$  is the binary number set on DIPswitches 1 to 7.

Module No:	DIPswitch: 1	2	3	4	5	6	7
	Binary value: 1 2 4 8 16 32 64						
1	off	off	off	off	off	off	off
2	ON	off	off	off	off	off	off
3	off	ON	off	off	off	off	off
4	ON	ON	off	off	off	off	off
5	off	off	ON	off	off	off	off
6	ON	off	ON	off	off	off	off
7	off	ON	ON	off	off	off	off
8	ON	ON	ON	off	off	off	off
9	off	off	off	ON	off	off	off
through to							
99	off	ON	off	off	off	ON	ON

## Link Settings

READER	JP2/JP3 Data O/P	JP4/JP5 Mode	JP6/JP7 Supply
Omron Swipe	5V	DFLT	5V
HID ProxPoint / MiniProx / ThinLine	5V	DFLT	5V
HID ProxPro	12V	DFLT	12V
HID Sensorkey	5V	DFLT	5V
HID Swipe/Insertion/Turnstile Wiegand Card Readers	5V	DFLT	5V
Motorola Indala. SlimLine/ WallSwitch/PinProx/ValueProx/ SecureProx/MasterProx	5V	DFLT	5V
Motorola Indala. Standard/ Medium Range/MasterProx (for 30cm read range)	12V	DFLT	12V

NOTE: It is recommended that Readers with wide supply voltage ranges (e.g. 4V to 14V, 5V to 16V, etc.) are powered using the 5V option.

**T1. LAN, External Power & Tamper Switch Connections.**

- +LAN Connect LAN +ve  
*IF* Module powered from the LAN.\*
- 0V Connect LAN 0V (-VE)
- A LAN Data A connection.
- B LAN Data B connection.
- SPR Connect LAN +ve  
if Module powered from External supply.\*
- +V External Power Supply +VE input.
- TAMP Tamper Switch input.
- 0V Ext. Power Supply -VE input.  
& Tamper switch 0V return.

\*NOTE: +VE connections from two different power supply sources must never be connected together.  
See "LAN & Power Supply Wiring" on page 7.

- D0 (L4 & L6). Data 0's Reader #.
- D1 (L3 & L5). Data 1's Reader #.

- F2 & F3. 500mA FUSE M205.
- DO NOT substitute higher values.

- JP2/JP3. Reader Data output voltage. 5V / 12V.
- JP4/JP5. Reader format option. Normally set to DFLT.
- JP6/JP7. Reader Power Supply voltage. 5V / 12V.
- See table on page 3 for common settings.

**T4 & T5. Reader connections.**

- ARM# Button Input for optional Area ON control. EOL resistors NOT required.
- 0V Reader 0 Volt (-ve) connection.
- +VRD Reader Power.
- D1(CLK) Reader Data or Clock input.
- D0(Data) Reader Data input.

**NOTE: Use shielded Data cable.**  
*Tycab DMC6702, Garland MC7-6S, etc.*  
**DO NOT use twisted pairs!** See connection details on page 6.

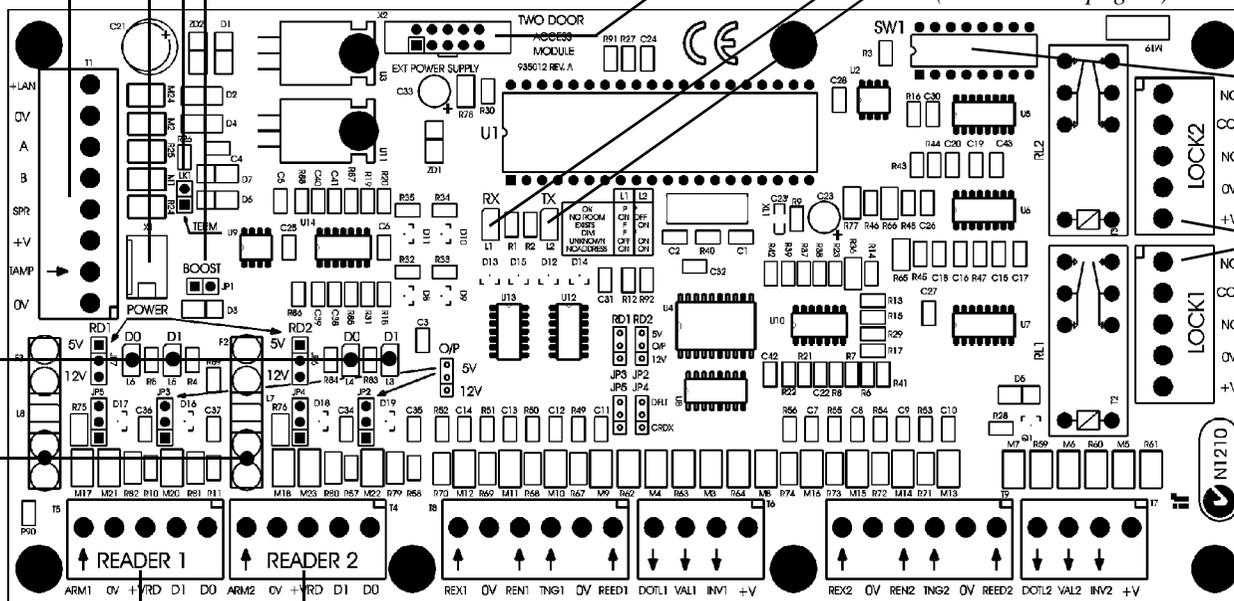
**X1. Ancillary LAN connection.**

**LK1. TERM.** Fitted only if this unit is one of the two furthest modules from the Control Module.

**BOOST (JP1).** For 12V Readers only.  
Fit if Voltage at Reader head is <11.5V.

**X2. External Power Supply connection option.**  
Connects to X3 on 99405x series Power Supplies using cable Part number: 605049. (Purchased separately)

**RX (L1).** LAN Data Receive & FAULT DIAGNOSIS  
**TX (L2).** LAN Data Transmit & FAULT DIAGNOSIS  
(See table on page 8)



**DIPswitch SW1:**  
Switch 1-7.  
Module number.  
(See table on p 3)

**T2 & T3.**  
**Lock Relay Connections.**  
See "Lock Wiring" on page 6.

**NOTE: See page 8**  
for details of  
Auxiliary numbers  
for Lock Relays.

**T8 & T9. Input connections.**

- REX # Exit Button Input for Door #. EOL resistors NOT required.
- 0V 0 Volt return for Input connections.
- REN # Entry Button I/P for Door #. EOL's NOT required.
- TNG 1 Optional Tongue Sense I/P Door #1 OR **Zone 6** I/P. EOL resistors required.
- TNG 2 Optional Tongue Sense I/P Door #2 OR **Zone 7** I/P. EOL resistors required.
- REED 1 Reed Switch Input for Door #1. (Zone 1 I/P) EOL resistors required.
- REED 2 Reed Switch Input for Door #2. (Zone 5 I/P) EOL resistors required.

**T6 & T7. Auxiliary Output connections.**

- DOTL # Reader # "Warn DOTL" LED output. (Requires V3.0 Control Module firmware or later) (DOTL1 = X07, DOTL2 = X08)
- VAL # Reader # "Valid" LED output. (In "No LEDs" mode: VAL1 = X02, VAL2 = X04 in Single Door mode or X06 in Two Door mode)
- INV # Reader # "Invalid" LED output. (In "No LEDs" mode: INV1 = X03, INV2 = X05)
- +V +12V supply for Auxiliary Outputs. Connect 1.2kOhm dropping resistor between +V & LED Anode if not already provided in Reader.