

## Electrical Specifications

Power Supply Input: 11V to 14V DC

Current Consumption. 30mA.  
(NOT including current drawn by any input devices or auxiliary devices connected.)

### Module Fault LEDs

<b>RX</b>	<b>TX</b>	<b>EXPLANATION / REMEDY</b>
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.
Alternating		EEPROM problem. Reset module. If fault persists return for service.

**Designed & manufactured in Australia.**

Due to on-going product development this manual is subject to change without notice.  
© 2003. Part No: 635086

## Model 3000 / Access 4000

**8 Zone / 8 Auxiliary  
Mini Expander Module.  
Type 2. (CE)  
P/N: 995086**

# INSTALLATION MANUAL

## Overview

The Mini Expander module can be used in similar applications as the Universal Expander Module providing a cost effective solution wherever the total number of Zones Inputs and/or Auxiliary outputs required is 8 or less.

The 8 Relay Expander board (993082E) may be connected to convert the 8 Auxiliary outputs to Relay outputs.

Special additional features are provided such as programmable input de-bounce time and input counting facility. This allows the module to perform any special event counting or process monitoring functions that may be supported in the Control Module firmware. Refer to the Programming and Reference manuals for more information.

IMPORTANT NOTES:

1. The Mini Expander cannot have additional Zones or Auxiliaries fitted.
2. The X2 connection can be used to power the Mini Expander from a 99405x series Power Supply via the Ribbon cable P/No: 605049 (Purchased separately)
2. When the X2 connection is used, the following Zones & Auxiliary have special functions and must not be used for other purposes:
  - Zone 7 (Mxx:Z07) is used to monitor AC Fail on the Power Supply.
  - Zone 8 (Mxx:Z08) is used to monitor Low Battery on the Power Supply.
  - Auxiliary 8 (Mxx:X08) is used for the “PSDOWN” function on the Power Supply and must be ON to enable AC on the power supply.
3. This Module is compatible with:

Model 3000 V2.00 or later.  
Model ACCESS 4000 V2.00 or later

## Mini Expander Module Parts List

- Mini Expander Module PCB assembly in metal enclosure.
- Installation Kit in Plastic bag containing:
  - 1 x Tamper switch.
  - 1 x Tamper switch bracket.
  - 2 x 6.3mm Tamper switch connectors.
  - 4 x 2 Way Plug on Screw Terminals.
  - 3 x 8 Way Plug on Screw Terminals.
  - 10 x 2k2 End-of-line resistors. (red-red-black-brown-brown)
  - 10 x 6k8 End-of-line resistors. (blue-grey-black-brown-brown)
  - 1 x Jumper Link. (Spare)
- Installation Manual. (This document)

## 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 dimensions: Length: 306mm Width: 140mm Depth: 72mm

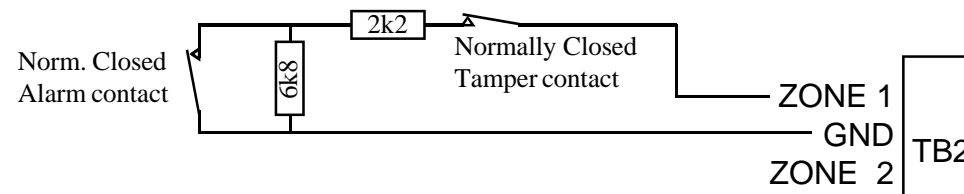
1. The Mini Expander Module is supplied in a metal enclosure which can be mounted in a convenient location using fasteners through the four mounting holes in the base.
2. The “Normally Closed” tamper switch should be fitted into the bracket supplied and positioned in the enclosure before securing the enclosure to the mounting surface. The tamper switch must be wired into one of the Zone Inputs with a 2k2 End Of Line Resistor connected in parallel. (Note that no special “TAMPER” input is provided)  
*See wiring diagram on page 7.*  
The Tamper Switch is Open cct when the plunger is depressed. i.e. When Lid is on.
3. The Module Number is set using DIPswitches 1 to 7 as required.  
*See table on page 3.*
4. Zone Inputs are wired using the End-of-Line (EOL) Resistors supplied.  
*See wiring diagram on page 7.*

## Module ID

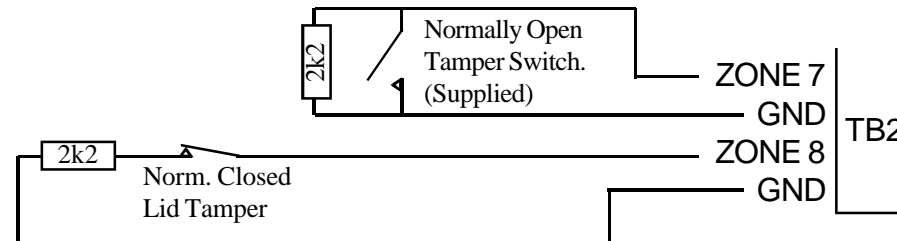
Mnn:xxx Where nn = module number xxx = Zone Input / Auxiliary Output ID

## Zone Input Wiring

### DETECTORS, ETC.

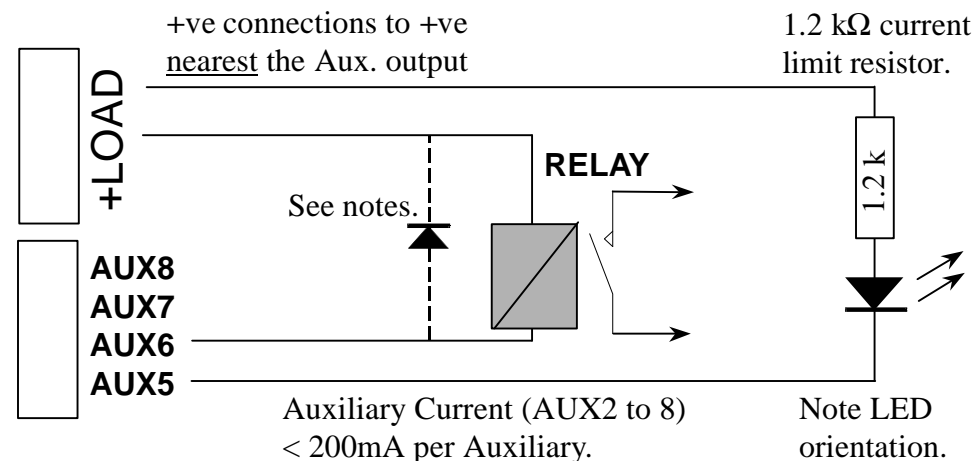


### TAMPER SWITCH OPTIONS.



## Auxiliary Output Wiring

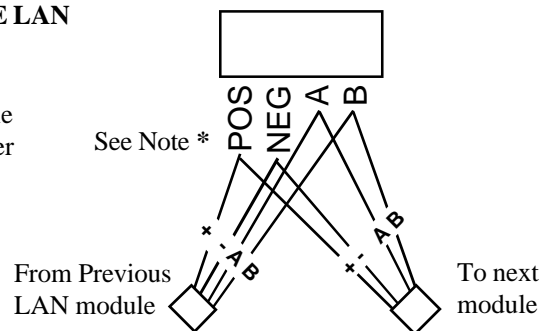
- The module should be powered by an external Power Supply if current required by Auxiliary Devices and/or Detectors exceeds available LAN current.
- When an external power supply is used to power auxiliary devices, a good common Negative connection MUST exist between the power supply and the module.
- Clamp diode should be fitted across inductive loads. Kathode (bar) to +ve.
- AUX1 can be used to switch loads up to 500mA.



## LAN and Power Supply Wiring

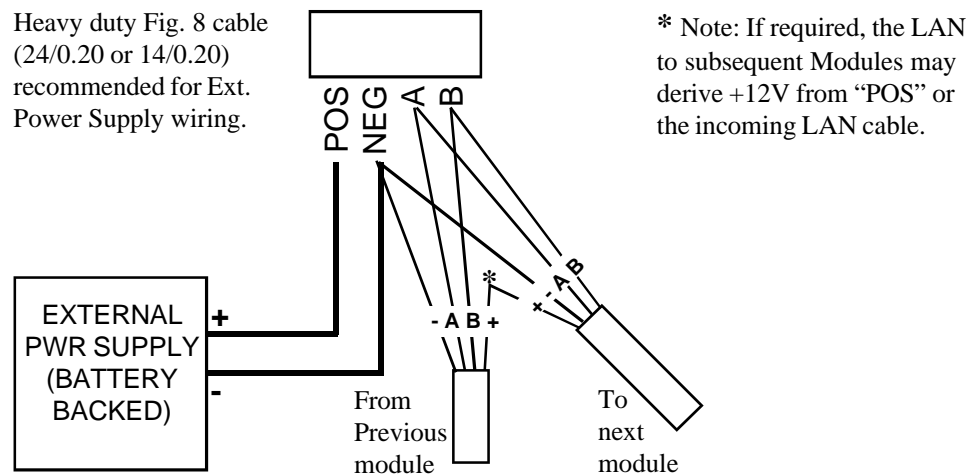
### MODULE POWERED FROM THE LAN

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



### MODULE POWERED FROM EXTERNAL SUPPLY

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



## Event Counter Input Wiring

Normally Open count contact.



Note: Counter will increment by 1 whenever an Open to Short transition occurs on the input. **Only available on Zones 1 to 7.**

## Module Numbering

The Mini Expander 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

## Installation Details

### Links:

JP1 LAN Termination. The LAN is only terminated on two modules in the system unless LAN Isolators are used.  
See the Control Module Installation manual for more details.

### Connectors:

TB1 LAN and +12V Power input connections.  
TB2,3 Zone Inputs.  
TB4 Auxiliary outputs.  
TB5 Positive 12V Power output for Detectors & Auxiliary Devices.  
X1 8 Relay Expansion board connection. (To **JP2** on Relay board, 993082E)  
X2 2A Power Supply connection for 99405x series Power Supplies.  
Uses Cable P/No: 605049 ordered separately. (See Notes 2 & 3 on page 1)  
X3 Auxiliary LAN connector.

### DIPSwitches:

SW1 Module Number. See table above.

### LEDs:

LED1 LAN RX Data and FAULT INDICATION. See table on page 8.  
LED2 LAN TX Data and FAULT INDICATION. See table on page 8.

## THE MINI EXPANDER PCB

**X3** Ancillary LAN connector.

**TB1. LAN & External Power Connections.**

**POS** Connect LAN +ve IF Module powered from the LAN, OR +12V from External Power Supply. \*

**NEG** Connect LAN Negative.  
Connect Negative from Ext. Power Supply if used.

**A** LAN Data A connection.

**B** LAN Data B connection.

\*NOTE: +VE connections from two different power supply sources must never be connected together.  
See "LAN & Power Supply Wiring" on page 6.

**DIPswitches:**

**Switch 1-7.** Module number  
(See table on page 3)

**TB2 & TB3. Zone Input connections.**

**Z1 to Z8** Zone Input connections.

**GND** Ground return for Input connections.

End-of-line (EOL) Resistors are required on Zone Input Wiring unless the Input is configured for Event Counting.  
See diagrams on pages 6 & 7.

**JP1** LAN Termination.

The LAN is only terminated on two modules in the system unless LAN Isolators are used. See the *Control Module Installation manual* or the "LAN Installation & Troubleshooting" guide for more details.

**X2**

External Power Supply connection option.  
Connects to X3 on 99405x series Power Supplies using cable Part number: 605049. (Purchased separately)  
-Optional enclosures can house the Mini Expander and Power supply together.  
(See Notes 2 & 3 on page 1)

**TB5.**

**+12V Supply for Detectors and Auxiliary Devices.**

NOTE: The module should be powered by an external Power Supply if current required by Auxiliary Devices and/or Detectors exceeds available LAN current.

**LED 1 (Rx).**

LAN Data Receive & FAULT DIAGNOSIS

**LED 2 (Tx).**

LAN Data Transmit & FAULT DIAGNOSIS  
(See table on p 8)

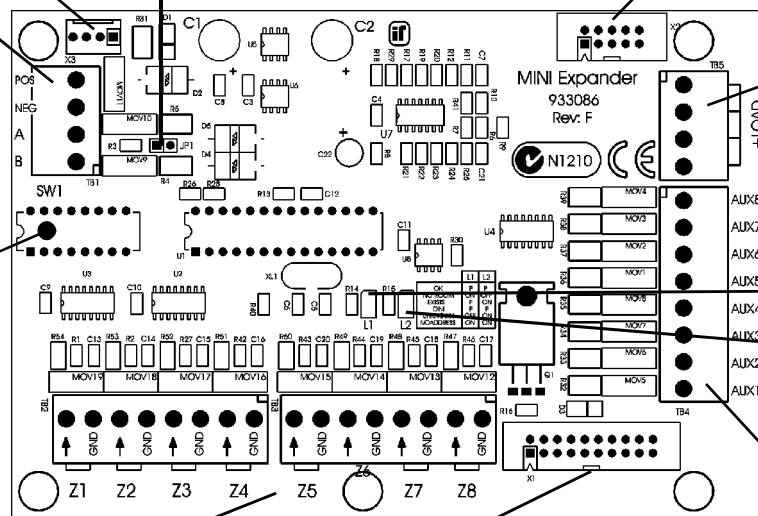
**TB4. Auxiliary Output connections.**

**AUX1 to 8** Open Collector outputs.

**AUX1** <500mA max.

**AUX2 to 8** <200mA max per output.

See wiring details on page 7.



**X1** 8 Relay Expander board connection.  
P/N: 993082E  
Connects to **JP1** on Relay board.

**NOTE:** The Mini Expander module should be powered by an external Power Supply if the 8 Relay Expander board is connected.