

*A1535 8 Way Relay Board  
for Nexus 1-8 Loop  
Analogue Addressable Control Panels*

*Application, Installation and Commissioning Manual*

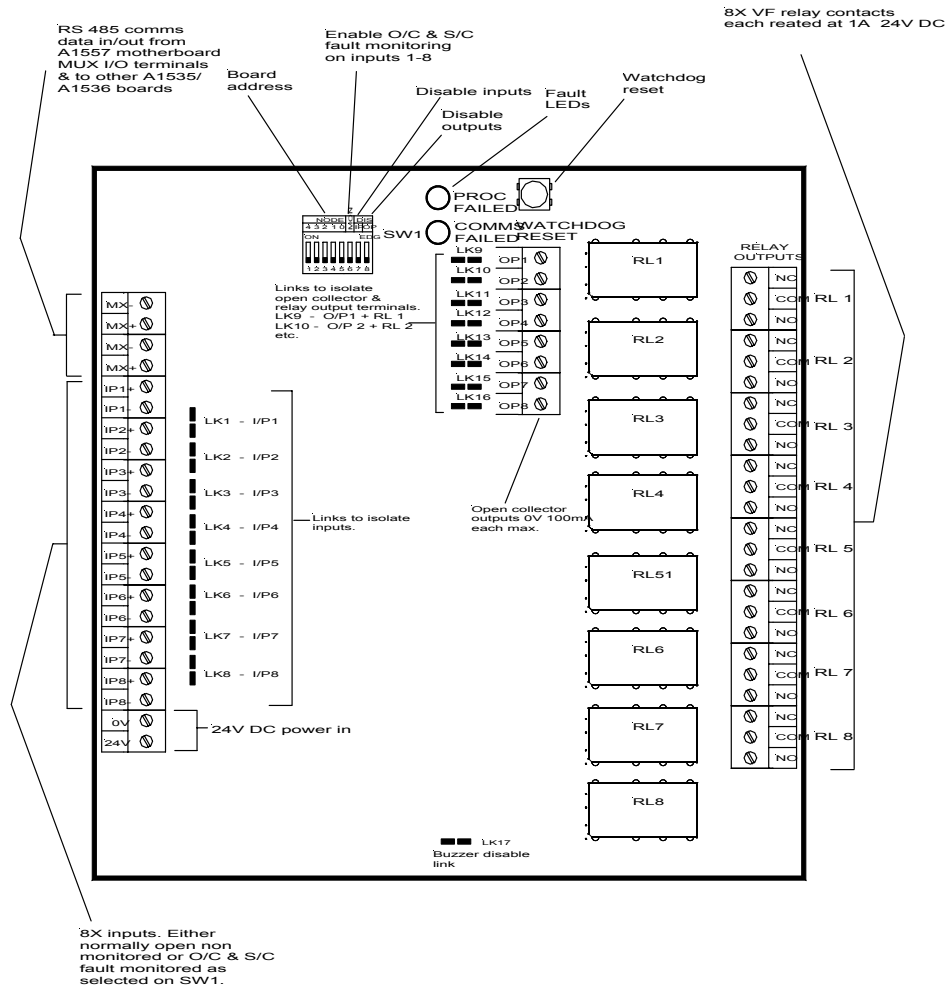
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**1.0 Introduction**

Up to 31 A1535 (relay) [and/or A1536 alarm] programmable expansion boards may be connected to the Nexus 1-8 loop panel. Two boards may be housed internally within the double-doored Nexus cabinet, the remainder require other enclosures. The A1535 board provides 8 programmable inputs (0V switched) and 8 programmable relay circuit outputs.

# 1.1 A Guided Tour

## 1.1.1 A1535 8 Way Programmable Input/Output Relay Board



## 2.0 Node Addressing Details

Set the required board address on switches SW1, according to the table below:

Node Address	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0	I/O Circuits
1	Off	Off	Off	Off	On	1 to 8
2	Off	Off	Off	On	Off	9 to 16
3	Off	Off	Off	On	On	17 to 24
4	Off	Off	On	Off	Off	25 to 32
5	Off	Off	On	Off	On	33 to 40
6	Off	Off	On	On	Off	41 to 48
7	Off	Off	On	On	On	49 to 56
8	Off	On	Off	Off	Off	57 to 64
9	Off	On	Off	Off	On	65 to 72
10	Off	On	Off	On	Off	73 to 80
11	Off	On	Off	On	On	81 to 88
12	Off	On	On	Off	Off	89 to 96
13	Off	On	On	Off	On	97 to 104
14	Off	On	On	On	Off	105 to 112
15	Off	On	On	On	On	113 to 120
16	On	Off	Off	Off	Off	121 to 128
17	On	Off	Off	Off	On	129 to 136
18	On	Off	Off	On	Off	137 to 144
19	On	Off	Off	On	On	145 to 152
20	On	Off	On	Off	Off	153 to 160
21	On	Off	On	Off	On	161 to 168
22	On	Off	On	On	Off	169 to 176
23	On	Off	On	On	On	177 to 184
24	On	On	Off	Off	Off	185 to 192
25	On	On	Off	Off	On	193 to 200
26	On	On	Off	On	Off	201 to 208
27	On	On	Off	On	On	209 to 216
28	On	On	On	Off	Off	217 to 224
29	On	On	On	Off	On	225 to 232
30	On	On	On	On	Off	233 to 240
31	On	On	On	On	On	241 to 248

## 3.0 Installation Instructions

- 3.1 Connect MX+ and MX- from the A1535 relay board to the control panel motherboard (terminals MUX I/O) observing correct polarity at both ends.
- 3.2 Connect 24V and 0V supplies from the A1535 relay board to the power supply unit. This can either be an auxiliary power supply or the control panel's power supply.

**NOTE:** *If an auxiliary power supply is used, then the open collector fault output on the power supply should be connected to the power supply fault monitor input terminals on the motherboard.*

**WARNING:** *Do not apply power at this stage.*

- 3.3 Connect the output circuit field wiring to open collector outputs or relays, dependent on the configuration of the A1535 relay board.
- 3.4 Connect the field wiring for all required inputs to the A1535 relay board. There are

two ways of connecting, one for monitored inputs and one for non-monitored inputs.

- 3.4.1 Monitored inputs require a combination of two resistors, a 3K9 end of line resistor which is connected across the switch contact and a 680 Ohm resistor which is connected in series between the positive input leg (IP4+) and the switch contact.
- 3.4.2 Non-monitored 0V inputs should be directly connected to the positive leg of the input terminals.

#### 4.0 Commissioning

- 4.1 The first task is to programme the panel to accept the A1535 relay board. This is done in the EDIT C/E Data option on the Nexus panel (Option 9 in the extended menu).

See Nexus 1-8 loop Installation & Commissioning Manual. The three valid board types for the A1535 are:

Type 2: RELAY (N-MON)	<u>Inputs</u> 8 non-latching, non-monitored indication only (ie non fire or fault reporting) inputs which can be used within the panel's cause/effect facility. <u>Outputs</u> 8 relays, programmable with the panel's cause/effect facility.
Type 3: RELAY (MON)	<u>Inputs</u> 8 non-latching, monitored indication only inputs which can be used within the panel's cause/effect facility. <u>Outputs</u> 8 relays, programmable with the panel's cause/effect facility.
Type 4: RELAY (FIRE)	<u>Inputs</u> 8 latching, monitored fire indicating inputs which can be used within the panel's cause/effect facility. <b>NOTE: <i>Not suitable for connection to detectors.</i></b> <u>Outputs</u> 8 relays, programmable with the panel's cause/effect facility.

- 4.2 The next step is to programme the desired cause and effect for the inputs and outputs on the A1535 board. The outputs are programmed using the PANEL OUTPUTS option in the EDIT C/E DATA extended menu option. See Nexus 1-8 loop Installation & Commissioning Manual. The inputs are programmed as zones in the ZONE ALLOCATION option. See Nexus 1-8 loop Installation & Commissioning Manual. Cause and effect programming can then be written using these zones.

## Appendices

### **i      Technical Specifications**

Device	A1535 Relay Board
Addressing	1 to 31 using DIL switches
Communications protocol	RS485
Supply voltage	24V DC
Quiescent current	100mA
Active condition current	100mA + 25mA per active output
Maximum supply current	1A
Open collector output current	8 x fully loaded outputs, each at 100mA
Relay contact rating	8 x 24V 1A changeover contacts
Relay rating	30V DC 3 Amps (non inductive)

### **ii     Other Relevant Documentation**

Sales Literature for Nexus 1-8 Loop panel  
Application Guide for Nexus 1-8 Loop panel  
Installation & Commissioning Manual for Nexus 1-8 Loop panel  
Wiring Recommendations  
After-Sales Technical Support Booklet