

# Input Output Device Range – Installation Guide

Item Numbers – 4210-0050 to 4210-0057

## Description

The Input Output Device range comprises of the following eight variants:

- 4210-0050 Single Input Output Device DIN Mount
- 4210-0051 Single Input Output Device Enclosed
- 4210-0052 Single Input Device DIN Mount
- 4210-0053 Single Input Device Enclosed
- 4210-0054 Three Input Output Device DIN Mount
- 4210-0055 Three Input Output Device Enclosed
- 4210-0056 Three Input Device DIN Mount
- 4210-0057 Three Input Device Enclosed

The DIN-Rail Mounted Devices are designed to be mounted in an enclosure, clipped onto a standard 35mm DIN Rail (DIN46277) and secured using the built in fixing. End stops can also be used to provide additional security. Alternatively, the Devices can be mounted direct to an enclosure back panel using the internal preformed fixing holes.

The Enclosed variant Devices are each supplied within a backbox and are suitable for surface mounting.

Note: the Devices are not intended for outdoor use unless mounted in a suitable weatherproof enclosure.

The installation must conform to applicable local codes and be carried out such that the Devices are not subjected to exposure to temperatures exceeding the maximum ambient, exposure to moisture, dust and foreign bodies or exposure to a risk of mechanical damage.

The Devices are all loop powered and are controlled by the main fire control panel. The address is set using the onboard DIL switch.

Each Device incorporates a bi-directional short circuit isolator between the loop input and loop output terminals which will protect the external Input monitoring circuit against a single loop short circuit on either side of the device.

## Installation

### DIN Rail

Clip the Input/Output Device to the standard 35mm DIN rail using the Red locking clip located in the front of the device. Alternatively, fix direct to the enclosure back panel using appropriate M4 nuts and bolts.

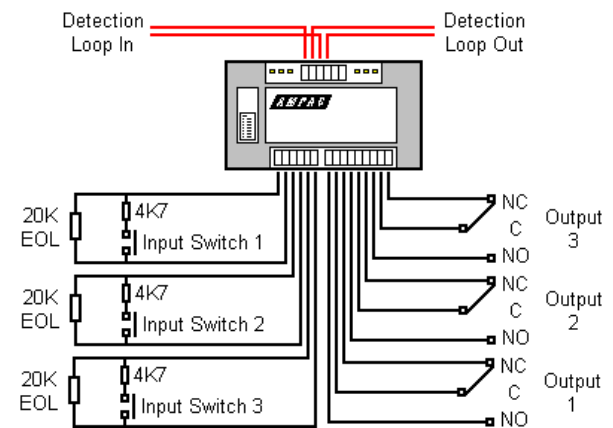
### Enclosed

Remove the clear ABS cover and securely mount the backbox to a wall or suitable structure using the integral fixing positions then install all external cables using the knock outs and/or cable tray entry points as required.

1. Connect the cables from the detection loop and the conventional detector zone into the device. Ensure that the earth continuity is maintained.

2. Set the Device address using switches 1-7 on the DIL switch in accordance with the address Table 2 and record the location description of the device itself together with the address setting on the device fascia label.
3. For commissioning purposes, set the LED Indications to On using switch 8 of the DIL switch. This can be disabled upon completion of testing & commissioning.
4. Following commissioning ensure that the device is securely fastened and replace the ABS clear cover.

## Schematic Diagram (4210-0054)



## LED Indications

The Device has several onboard LEDs which provide indication for Input Active (Alarm), Output Active, Loop Polling/Short Circuit Isolation and Fault conditions.

| Function | Colour | Mode     | Description            |
|----------|--------|----------|------------------------|
| Input    | Yellow | On       | Input is active        |
| Input    | Yellow | Flashing | Input is in fault      |
| Output   | Red    | On       | Output is active       |
| S/C Poll | Green  | Flashing | Device is being polled |
| S/C Poll | Green  | On       | Loop Short             |

## Maximum Loop Current Consumption

| 4210-0050/1 (LEDs disabled) |        |
|-----------------------------|--------|
| Quiescent Current           | 1.3mA  |
| Input On                    | 1.5mA  |
| Output On                   | 1.3mA  |
| Total (All On)              | 1.58mA |

Refer PDS for remaining range of devices.

## Commissioning

It is important that the Device is tested thoroughly after installation by initiating an alarm condition at Input circuit. Initiation of both an open and short circuit fault condition at a suitable location on the circuit will also prove the integrity and reliability of the system.

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## Troubleshooting

Before investigating individual device faults, it is important to check that the system wiring is fault free. Earth faults on the data loops or zone input conventional detector circuits may cause communications errors to occur.

Many fault conditions are the result of simple wiring errors. Check all terminal connections to the device and make sure that the correct value EOL devices/resistors are fitted where necessary.

## Fault Finding

| Symptom                  | Possible Cause   |
|--------------------------|--|
| No response              | Incorrect address setting<br>Incorrect loop wiring                                 |
| Fault condition reported | Incorrect input wiring<br>Incorrect EOL resistor fitted                            |
| Analogue value unstable  | Dual address<br>Loop data fault<br>Data corruption                                 |
| Constant alarm           | Incorrect input wiring<br>Incorrect EOL fitted<br>Incorrect control panel software |

**Table 2 – Address DIL Switch Settings**

The address is set using the first seven switches of the 8 way DIL switch (marked address). Switch 8 enables and disables the on-board LED indications.

| DIL switch setting |         | DIL switch setting |         | DIL switch setting |         | DIL switch setting |         | DIL switch setting |         |
|--------------------|---------|--------------------|---------|--------------------|---------|--------------------|---------|--------------------|---------|
| Address            | 1234567 | Address            | 1234567 | Address            | 1234567 | Address            | 1234567 | Address            | 1234567 |
| 1                  | 1000000 | 26                 | 0101100 | 51                 | 1100110 | 76                 | 0011001 | 101                | 1010011 |
| 2                  | 0100000 | 27                 | 1101100 | 52                 | 0010110 | 77                 | 1011001 | 102                | 0110011 |
| 3                  | 1100000 | 28                 | 0011100 | 53                 | 1010110 | 78                 | 0111001 | 103                | 1110011 |
| 4                  | 0010000 | 29                 | 1011100 | 54                 | 0110110 | 79                 | 1111001 | 104                | 0001011 |
| 5                  | 1010000 | 30                 | 0111100 | 55                 | 1110110 | 80                 | 0000101 | 105                | 1001011 |
| 6                  | 0110000 | 31                 | 1111100 | 56                 | 0001110 | 81                 | 1000101 | 106                | 0101011 |
| 7                  | 1110000 | 32                 | 0000010 | 57                 | 1001110 | 82                 | 0100101 | 107                | 1101011 |
| 8                  | 0001000 | 33                 | 1000010 | 58                 | 0101110 | 83                 | 1100101 | 108                | 0011011 |
| 9                  | 1001000 | 34                 | 0100010 | 59                 | 1101110 | 84                 | 0010101 | 109                | 1011011 |
| 10                 | 0101000 | 35                 | 1100010 | 60                 | 0011110 | 85                 | 1010101 | 110                | 0111011 |
| 11                 | 1101000 | 36                 | 0010010 | 61                 | 1011110 | 86                 | 0110101 | 111                | 1111011 |
| 12                 | 0011000 | 37                 | 1010010 | 62                 | 0111110 | 87                 | 1110101 | 112                | 0000111 |
| 13                 | 1011000 | 38                 | 0110010 | 63                 | 1111110 | 88                 | 0001101 | 113                | 1000111 |
| 14                 | 0111000 | 39                 | 1110010 | 64                 | 0000001 | 89                 | 1001101 | 114                | 0100111 |
| 15                 | 1111000 | 40                 | 0001010 | 65                 | 1000001 | 90                 | 0101101 | 115                | 1100111 |
| 16                 | 0000100 | 41                 | 1001010 | 66                 | 0100001 | 91                 | 1101101 | 116                | 0010111 |
| 17                 | 1000100 | 42                 | 0101010 | 67                 | 1100001 | 92                 | 0011101 | 117                | 1010111 |
| 18                 | 0100100 | 43                 | 1101010 | 68                 | 0010001 | 93                 | 1011101 | 118                | 0110111 |
| 19                 | 1100100 | 44                 | 0011010 | 69                 | 1010001 | 94                 | 0111101 | 119                | 1110111 |
| 20                 | 0010100 | 45                 | 1011010 | 70                 | 0110001 | 95                 | 1111101 | 120                | 0001111 |
| 21                 | 1010100 | 46                 | 0111010 | 71                 | 1110001 | 96                 | 0000011 | 121                | 1001111 |
| 22                 | 0110100 | 47                 | 1111010 | 72                 | 0001001 | 97                 | 1000011 | 122                | 0101111 |
| 23                 | 1110100 | 48                 | 0000110 | 73                 | 1001001 | 98                 | 0100011 | 123                | 1101111 |
| 24                 | 0001100 | 49                 | 1000110 | 74                 | 0101001 | 99                 | 1100011 | 124                | 0011111 |
| 25                 | 1001100 | 50                 | 0100110 | 75                 | 1101001 | 100                | 0010011 | 125                | 1011111 |
|                    |         |                    |         |                    |         |                    |         | 126                | 0111111 |