

Zone Input Device – Installation Guide

Item Number – 4210-0059 & 4210-0059

Description

The Zone Input Device is available in two variants:

The DIN-Rail Mounted Zone Input Device, Item No 4210-0058, is 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 4210-0058 can be mounted direct to an enclosure back panel using the internal preformed fixing holes.

The Enclosed Zone Input Device, Item No 4210-0059, is supplied within a backbox for surface mounting.

Note: Both variants 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 Zone Input Device is 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 Zone Input Device is loop powered and controlled by the main fire control panel. The address is set using the onboard DIL switch.

The Zone Input Device incorporates a bi-directional short circuit isolator between the loop input and loop output terminals which will protect the conventional zone of detectors against a single loop short circuit on either side of the device.

Installation

DIN Rail - Item No 4210-0058

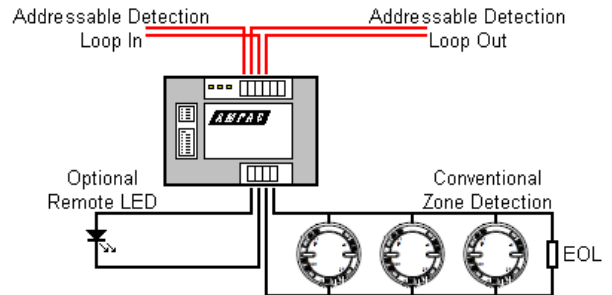
Clip the Zone Input Device to the standard 35mm DIN rail using the Red locking clip located in the front of the device. Alternatively, fix direct to the enclosure back panel using appropriate M4 nuts and bolts.

Enclosed - Item No 4210-0059

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 End of Line (EOL) monitoring to match the device used by the conventional zone circuit in accordance with Table 1. Polling LED indication can also be enabled during commissioning.
3. Set the Device address using 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.
4. Following commissioning ensure that the device is securely fastened and replace the ABS clear cover.

Schematic Diagram



Programming

When configuring the Zone Input Device for use with the FireFinder range of panels, using ConfigManager the device is assigned as an AMPAC ZID type. When configuring for use with LoopSense range of panels, using LoopMaster the device is configured as an XP95 Zone Monitor Unit.

The Zone Input Device can be programmed to function in any one of the following modes:

- Normal (latching alarm)
- Non-latching
- Self Reset
- Dependency A,B and C (LoopSense only)
- Investigation (LoopSense only)
- Alarm Verification Facility (FireFinder only)

The conventional Zone Input has a programmable End of Line feature that allows for either 3K3Ω or 6K2Ω resistor value to be used. Alternatively, the EOL can be a 10uF capacitor which is required to support the detector head removal feature when used with diode bases on the conventional zone circuit. The default setting for the device is 3k3 No AVF.

Table 1

EOL and LED indication switch settings 1= On

Switch Number		Function
123	4	
000		10uF EOL - No AVF
100		6K2 EOL - No AVF
010		3K3 EOL - No AVF
110		6K2 EOL - No AVF (NZ pre 2003)
001		10uF EOL - AVF
101		6K2 EOL - AVF
011		3K3 EOL - AVF
111		3K3 EOL - AVF (NZ pre 2003)
	1	Polling LED Indications on

Maximum Loop Current Consumption

Max Current at 24V DC	3k3	6K2	10uF
Quiescent Current	7.5mA	5mA	2mA
Alarm Current	23mA	23mA	23mA
(No Detectors connected and LED Polling disabled)			

Polling LED Indication – adds 2mA

Remote LED activation – adds 2mA when active

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LED Indications

The Zone Input Device has three onboard LEDs which can be enabled and disabled using switch 4 on the 4 way DIL switch. The LEDs provide indication for Alarm, Loop Polling/Short Circuit Isolation and Fault conditions.

Function LED	Colour	Mode	Description
Alarm	Red	Off	No Alarm
Alarm	Red	On	Input circuit is in alarm condition
S/C Poll	Green	Flashing	Device is being polled correctly
S/C Poll	Green	On	Loop Short Circuit detected
Fault	Yellow	On	Zone Input Fault

Commissioning

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

Note: switch 4 is only to be used during commissioning and should be turned off following completion in order to reduce current draw on the loop during normal operation.

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

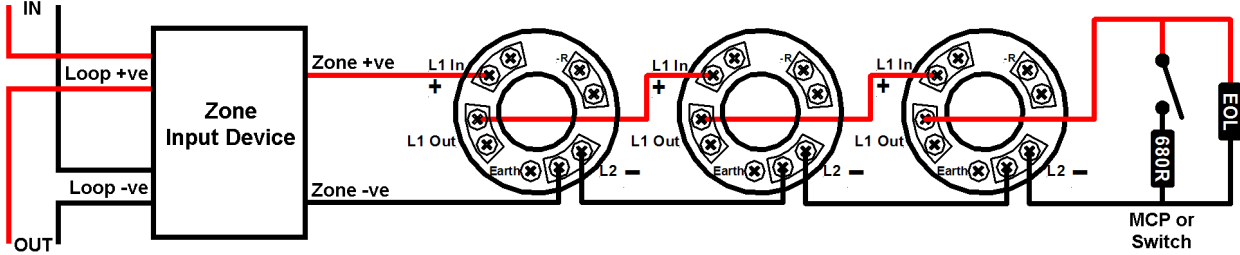
Symptom	Possible Cause
No response	Incorrect address setting Incorrect loop wiring
Fault condition reported	Incorrect input wiring Incorrect EOL resistor fitted
Analogue value unstable	Dual address Loop data fault Data corruption
Constant alarm	Incorrect input wiring Incorrect EOL fitted Incorrect control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

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Wiring Diagrams

Series 65 Standard Base connection details – if Manual Call Point (MCPs) or remote switches are fitted, a 680Ω resistor is required in series with the switch as shown below.



Orbis Diode Base connection details with connection to Remote LED Indicator shown

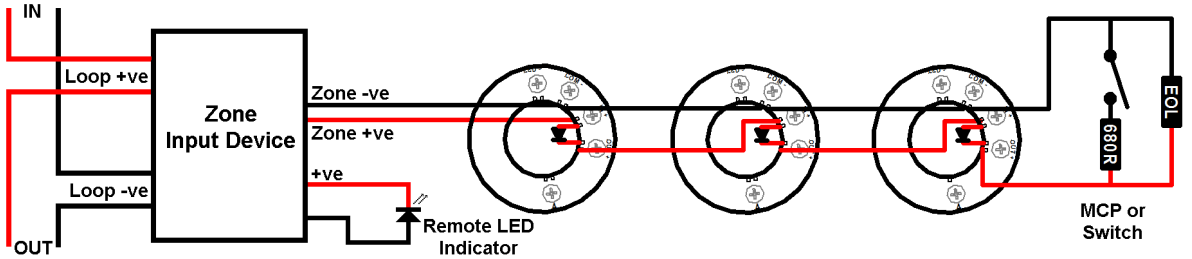


Table 2 – Zone Input Device DIL Switch Settings

The address of the Zone Input Device is set using the first seven switches of the 8 way DIL switch (marked address)

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

Ampac Technologies, 7 Ledger Road, Balcatta, Western Australia, 6021
 Tel +61 8 9201 6100
 Europe +44 (0) 1302 833 622 New Zealand +64 9443 8072