

ZAIO/230 MAINS SWITCHING I/O INSTRUCTION MANUAL

(Fyreye MKII Protocol)

Description

The Mains IO Modules are fully monitored loop powered devices which permit the interfacing of third party equipment with the Fire Alarm Control panel using normally open dry contact connections.

The connection to the input is monitored for fault (open or short circuit) and Alarm conditions.



The interface is used to monitor the contacts of an external system which must be interfaced to the Fire Alarm System, for example a Flow Switch in a sprinkler system to indicate if the sprinklers have been activated or extinguishant level monitoring in Gas Extinguishing systems, etc.

Module is provided with a loop short-circuit isolator and with a voltage free single pole change over mains rated output. The output relay is always powered directly from the detection loop. It is not required to use an external 24V DC power supply. Relay operation is confirmed by an on-board red LED

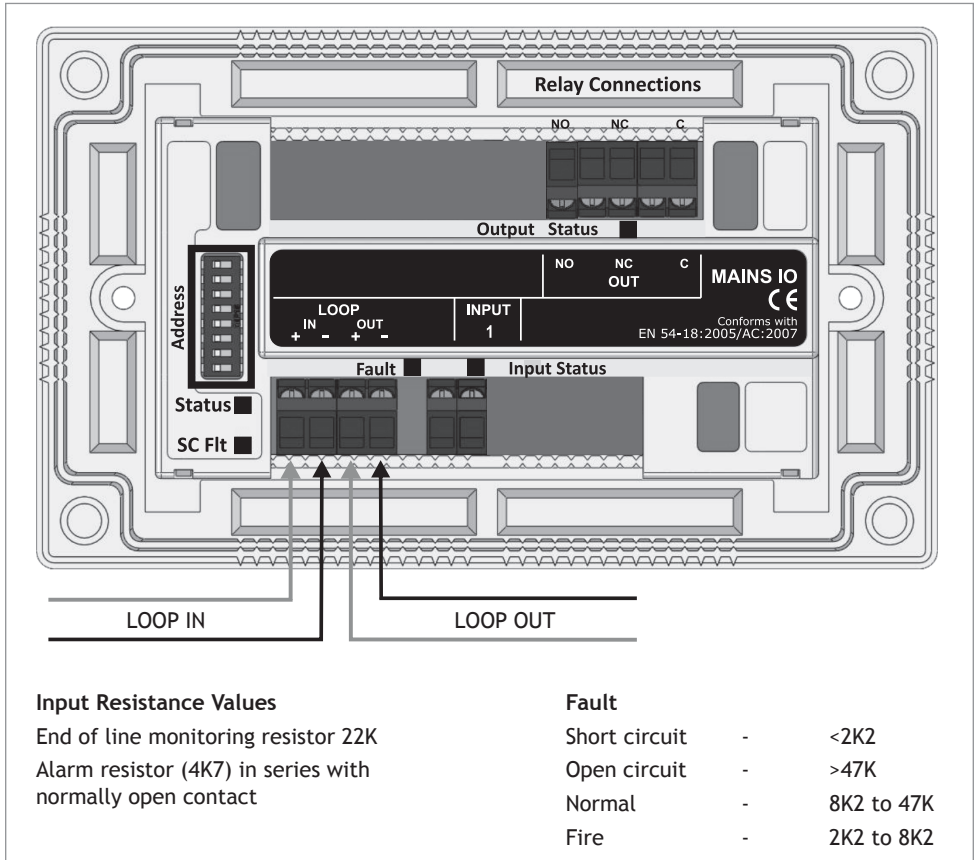
An 8 way D.I.L switch is provided to configure the module's address. This value can be set in the range 1 to 250.

Features

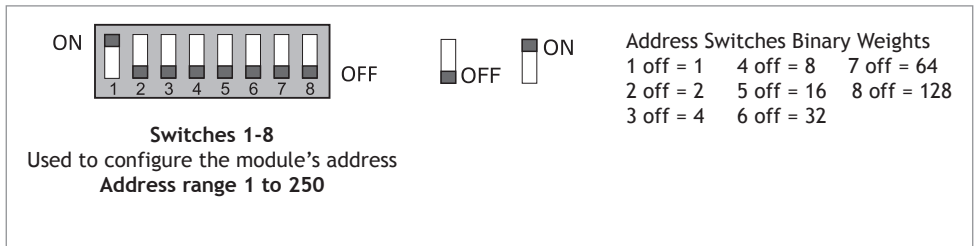
- ✓ Fast Activation Response
- ✓ Loop Powered
- ✓ Five Status LEDs provided
- ✓ Low Power Consumption
- ✓ Module features an integral short-circuit loop isolator
- ✓ Single mains rated relay contact

Connections

Device is polarized



D.I.L Switches Configuration



Address Settings

ADDRESS	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
0	OFF	ON	ON	ON	ON	ON	ON	ON
1	OFF	ON	ON	ON	ON	ON	ON	ON
2	ON	OFF	ON	ON	ON	ON	ON	ON
3	OFF	ON	ON	ON	ON	ON	ON	ON
4	OFF	ON	ON	ON	ON	ON	ON	ON
5	OFF	ON	OFF	ON	ON	ON	ON	ON
6	ON	OFF	OFF	ON	ON	ON	ON	ON
7	OFF	OFF	OFF	ON	ON	ON	ON	ON
8	OFF	ON	ON	OFF	ON	ON	ON	ON
9	OFF	ON	ON	OFF	ON	ON	ON	ON
10	OFF	ON	ON	OFF	ON	ON	ON	ON
11	ON	OFF	ON	OFF	ON	ON	ON	ON
12	ON	ON	OFF	OFF	ON	ON	ON	ON
13	OFF	ON	OFF	OFF	ON	ON	ON	ON
14	ON	ON	OFF	OFF	ON	ON	ON	ON
15	OFF	OFF	OFF	OFF	ON	ON	ON	ON
16	OFF	ON	ON	OFF	ON	ON	ON	ON
17	OFF	ON	ON	OFF	ON	ON	ON	ON
18	OFF	ON	ON	OFF	ON	ON	ON	ON
19	OFF	ON	ON	OFF	ON	ON	ON	ON
20	ON	ON	OFF	ON	OFF	ON	ON	ON
21	OFF	ON	OFF	ON	OFF	ON	ON	ON
22	OFF	ON	OFF	ON	OFF	ON	ON	ON
23	OFF	OFF	OFF	ON	OFF	ON	ON	ON
24	ON	ON	ON	OFF	OFF	ON	ON	ON
25	ON	ON	ON	OFF	OFF	ON	ON	ON
26	ON	ON	ON	OFF	OFF	ON	ON	ON
27	ON	ON	ON	OFF	OFF	ON	ON	ON
28	ON	ON	ON	OFF	OFF	ON	ON	ON
29	ON	ON	ON	OFF	OFF	ON	ON	ON
30	ON	ON	ON	OFF	OFF	ON	ON	ON
31	OFF	OFF	OFF	OFF	OFF	ON	ON	ON
32	ON	ON	ON	ON	OFF	ON	ON	ON
33	ON	ON	ON	ON	OFF	ON	ON	ON
34	OFF	ON	ON	ON	OFF	ON	ON	ON
35	OFF	ON	ON	ON	OFF	ON	ON	ON
36	ON	ON	OFF	ON	ON	OFF	ON	ON
37	OFF	ON	OFF	ON	ON	OFF	ON	ON
38	ON	OFF	OFF	ON	ON	OFF	ON	ON
39	OFF	OFF	OFF	ON	ON	OFF	ON	ON
40	OFF	OFF	OFF	ON	ON	OFF	ON	ON
41	OFF	ON	ON	OFF	ON	OFF	ON	ON
42	ON	OFF	ON	OFF	ON	OFF	ON	ON
43	OFF	ON	OFF	ON	OFF	ON	ON	ON
44	ON	ON	OFF	OFF	ON	OFF	ON	ON
45	ON	ON	OFF	OFF	ON	OFF	ON	ON
46	ON	ON	OFF	OFF	ON	OFF	ON	ON
47	OFF	OFF	OFF	OFF	ON	OFF	ON	ON
48	ON	ON	ON	ON	OFF	OFF	ON	ON
49	OFF	ON	ON	ON	OFF	OFF	ON	ON
50	OFF	ON	ON	ON	OFF	OFF	ON	ON
51	OFF	ON	ON	ON	OFF	OFF	ON	ON
52	OFF	ON	ON	ON	OFF	OFF	ON	ON
53	ON	OFF	ON	ON	OFF	OFF	ON	ON
54	ON	OFF	ON	ON	OFF	OFF	ON	ON
55	OFF	OFF	OFF	ON	OFF	OFF	ON	ON
56	ON	ON	ON	OFF	OFF	OFF	ON	ON
57	ON	ON	ON	OFF	OFF	OFF	ON	ON
58	ON	ON	ON	OFF	OFF	OFF	ON	ON
59	OFF	ON	ON	OFF	OFF	OFF	ON	ON
60	ON	ON	OFF	OFF	OFF	OFF	ON	ON
61	OFF	ON	OFF	OFF	OFF	OFF	ON	ON
62	ON	ON	OFF	OFF	OFF	OFF	ON	ON
63	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON

ADDRESS	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
64	ON	ON	ON	ON	ON	ON	OFF	ON
65	OFF	ON	ON	ON	ON	ON	OFF	ON
66	ON	OFF	ON	ON	ON	ON	OFF	ON
67	OFF	OFF	ON	ON	ON	ON	OFF	ON
68	OFF	ON	OFF	ON	ON	ON	OFF	ON
69	OFF	ON	OFF	ON	ON	ON	OFF	ON
70	ON	OFF	OFF	ON	ON	ON	OFF	ON
71	OFF	OFF	OFF	ON	ON	ON	OFF	ON
72	ON	ON	ON	OFF	ON	ON	OFF	ON
73	OFF	ON	ON	OFF	ON	ON	OFF	ON
74	ON	ON	ON	OFF	ON	ON	OFF	ON
75	OFF	OFF	ON	OFF	ON	ON	OFF	ON
76	ON	ON	OFF	OFF	ON	ON	OFF	ON
77	OFF	ON	OFF	OFF	ON	ON	OFF	ON
78	ON	ON	OFF	OFF	ON	ON	OFF	ON
79	OFF	OFF	OFF	OFF	ON	ON	OFF	ON
80	ON	ON	ON	OFF	ON	ON	OFF	ON
81	OFF	ON	ON	OFF	ON	ON	OFF	ON
82	OFF	ON	ON	OFF	ON	ON	OFF	ON
83	OFF	ON	ON	OFF	ON	ON	OFF	ON
84	ON	ON	ON	OFF	ON	ON	OFF	ON
85	OFF	ON	ON	OFF	ON	ON	OFF	ON
86	ON	ON	ON	OFF	ON	ON	OFF	ON
87	OFF	ON	ON	OFF	ON	ON	OFF	ON
88	ON	ON	ON	OFF	ON	ON	OFF	ON
89	ON	ON	ON	OFF	ON	ON	OFF	ON
90	ON	ON	ON	OFF	ON	ON	OFF	ON
91	ON	ON	ON	OFF	ON	ON	OFF	ON
92	ON	ON	ON	OFF	ON	ON	OFF	ON
93	ON	ON	ON	OFF	ON	ON	OFF	ON
94	ON	ON	ON	OFF	ON	ON	OFF	ON
95	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON
96	ON	ON	ON	ON	OFF	ON	OFF	ON
97	OFF	ON	ON	ON	OFF	ON	OFF	ON
98	OFF	ON	ON	ON	OFF	ON	OFF	ON
99	ON	ON	ON	ON	OFF	ON	OFF	ON
100	ON	ON	ON	ON	OFF	ON	OFF	ON
101	OFF	ON	OFF	ON	ON	OFF	ON	ON
102	ON	ON	OFF	ON	ON	OFF	ON	ON
103	OFF	OFF	OFF	ON	ON	OFF	ON	ON
104	OFF	ON	ON	OFF	ON	OFF	ON	ON
105	OFF	ON	ON	OFF	ON	OFF	ON	ON
106	ON	ON	ON	OFF	ON	OFF	ON	ON
107	OFF	ON	ON	OFF	ON	OFF	ON	ON
108	ON	ON	ON	OFF	ON	OFF	ON	ON
109	OFF	ON	ON	OFF	ON	OFF	ON	ON
110	ON	ON	ON	OFF	ON	OFF	ON	ON
111	OFF	OFF	OFF	OFF	ON	OFF	ON	ON
112	ON	ON	ON	ON	OFF	OFF	ON	ON
113	OFF	ON	ON	ON	OFF	OFF	ON	ON
114	OFF	ON	ON	ON	OFF	OFF	ON	ON
115	OFF	ON	ON	ON	OFF	OFF	ON	ON
116	ON	ON	ON	ON	OFF	OFF	ON	ON
117	OFF	ON	ON	ON	OFF	OFF	ON	ON
118	ON	OFF	OFF	ON	ON	OFF	OFF	ON
119	OFF	OFF	OFF	ON	ON	OFF	OFF	ON
120	ON	ON	ON	ON	OFF	OFF	OFF	ON
121	OFF	ON	ON	ON	OFF	OFF	OFF	ON
122	OFF	ON	ON	ON	OFF	OFF	OFF	ON
123	OFF	ON	ON	ON	OFF	OFF	OFF	ON
124	ON	ON	ON	OFF	OFF	OFF	OFF	ON
125	OFF	ON	OFF	OFF	OFF	OFF	OFF	ON
126	ON	ON	OFF	OFF	OFF	OFF	OFF	ON
127	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON

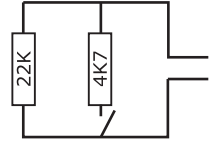
ADDRESS	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
128	ON	ON	ON	ON	ON	ON	OFF	ON
129	OFF	ON	ON	ON	ON	ON	OFF	ON
130	ON	OFF	ON	ON	ON	ON	OFF	ON
131	OFF	OFF	ON	ON	ON	ON	OFF	ON
132	OFF	ON	ON	ON	ON	ON	OFF	ON
133	OFF	ON	ON	ON	ON	ON	OFF	ON
134	ON	OFF	OFF	ON	ON	ON	OFF	ON
135	OFF	OFF	OFF	ON	ON	ON	OFF	ON
136	ON	ON	ON	ON	OFF	ON	ON	ON
137	OFF	ON	ON	ON	OFF	ON	ON	ON
138	ON	ON	ON	ON	OFF	ON	ON	ON
139	OFF	ON	ON	ON	OFF	ON	ON	ON
140	ON	ON	ON	ON	OFF	ON	ON	ON
141	OFF	ON	OFF	OFF	ON	ON	OFF	ON
142	ON	ON	OFF	OFF	ON	ON	OFF	ON
143	OFF	OFF	OFF	OFF	ON	ON	OFF	ON
144	ON	ON	ON	ON	OFF	ON	ON	ON
145	OFF	ON	ON	ON	OFF	ON	ON	ON
146	OFF	ON	ON	ON	OFF	ON	ON	ON
147	OFF	ON	ON	ON	OFF	ON	ON	ON
148	ON	ON	ON	ON	OFF	ON	ON	ON
149	OFF	ON	ON	ON	OFF	ON	ON	ON
150	ON	ON	ON	ON	OFF	ON	ON	ON
151	OFF	OFF	OFF	ON	ON	ON	OFF	ON
152	ON	ON	ON	ON	OFF	ON	ON	ON
153	ON	ON	ON	ON	OFF	ON	ON	ON
154	ON	ON	ON	ON	OFF	ON	ON	ON
155	ON	ON	ON	ON	OFF	ON	ON	ON
156	ON	ON	ON	ON	OFF	ON	ON	ON
157	ON	ON	ON	ON	OFF	ON	ON	ON
158	ON	ON	ON	ON	OFF	ON	ON	ON
159	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON
160	ON	ON	ON	ON	ON	OFF	ON	ON
161	OFF	ON	ON	ON	ON	OFF	ON	ON
162	OFF	ON	ON	ON	ON	OFF	ON	ON
163	OFF	ON	ON	ON	ON	OFF	ON	ON
164	ON	ON	ON	ON	ON	OFF	ON	ON
165	OFF	ON	ON	ON	ON	OFF	ON	ON
166	ON	ON	ON	ON	ON	OFF	ON	ON
167	OFF	OFF	OFF	ON	ON	OFF	ON	ON
168	OFF	ON	ON	ON	ON	OFF	ON	ON
169	ON	ON	ON	ON	ON	OFF	ON	ON
170	ON	ON	ON	ON	ON	OFF	ON	ON
171	OFF	ON	ON	ON	ON	OFF	ON	ON
172	ON	ON	ON	ON	ON	OFF	ON	ON
173	OFF	ON	ON	ON	ON	OFF	ON	ON
174	ON	ON	ON	ON	ON	OFF	ON	ON
175	OFF	ON	ON	ON	ON	OFF	ON	ON
176	ON	ON	ON	ON	ON	OFF	ON	ON
177	OFF	ON	ON	ON	ON	OFF	ON	ON
178	OFF	ON	ON	ON	ON	OFF	ON	ON
179	OFF	ON	ON	ON	ON	OFF	ON	ON
180	ON	ON	ON	ON	ON	OFF	ON	ON
181	ON	ON	ON	ON	ON	OFF	ON	ON
182	ON	ON	ON	ON	ON	OFF	ON	ON
183	OFF	OFF	OFF	ON	ON	OFF	ON	ON
184	ON	ON	ON	ON	ON	OFF	ON	ON
185	ON	ON	ON	ON	ON	OFF	ON	ON
186	ON	ON	ON	ON	ON	OFF	ON	ON
187	OFF	OFF	OFF	ON	ON	OFF	ON	ON
188	ON	ON	ON	ON	ON	OFF	ON	ON
189	OFF	ON	ON	ON	ON	OFF	ON	ON
190	ON	ON	ON	ON	ON	OFF	ON	ON
191	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON

ADDRESS	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
192	ON	ON	ON	ON	ON	ON	OFF	ON
193	OFF	ON	ON	ON	ON	ON	OFF	ON
194	ON	OFF	ON	ON	ON	ON	OFF	ON
195	OFF	OFF	ON	ON	ON	ON	OFF	ON
196	OFF	ON						

Connections

Input

Monitored for Open and Short Circuit - Can be driven by conventional panel's zone repeater outputs. Each I/P should be fitted with 22 K Ohm end-of-line resistor. Fire condition set with 4.7 K Ohm resistor in parallel with e.o.l resistor.



Output

The mains rated relay output provided is a latching relay. In order to reset it apply reset to the panel or alternatively remove power to the panel and re-apply. After a few seconds the relay will revert to it's default position.

Reporting Details

In order to indicate the status of the module's working condition, the following LEDs are provided:

Status: This will flash GREEN every time the address associated with the module is polled by the addressable panel.

Input Status: An I/P status RED LED is provided for the input. This RED LED will be illuminated continuously whenever there is a FIRE condition present at the input terminals. The analogue value reported by the module in this state is 64.

Output Status: An O/P status RED LED is provided for the output. This RED LED will be illuminated continuously whenever the output relay is activated.

Fault: This YELLOW LED will be activated whenever there is either an open or short circuit fault on that particular input. If there is an open or short circuit condition, the analogue value reported to the addressable panel is 4.

SC Fault: This YELLOW LED will be ON when there is a short circuit in the loop.

Technical Specifications

MODEL	ZAIO/230
Part No	48-126
Description	Mains Switching I/O Unit - Fyreye MKII Protocol
Supply Voltage	Loop Powered - 17V to 30V DC
Loop Current - Quiescent (I_Q)	1.3 mA
Loop Current - Alarm	2.9 mA
Loop Current - Fault	2.9 mA (SC) - 2.6 mA (OC)
Loop Current - Output Active	2.8 mA
Output Relay Contact Rating	8A 250 VAC/30V DC
Max. Cable Size	2.5 mm ²
Case Material	ABS
Max. Humidity	95% RH Non-Condensing
Operating Temperature	-10°C to 50°C
Dimensions	150 (W) x 90 (L) x 32 (H)
Weight	210g inc. packaging

Installation Manual Modification History

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Issue	Date	Changes
1.0	04/11/2013	Initial Release
1.1	4/10/2017	Added part number and MKII ref to title. Corrected "switch 8 use"