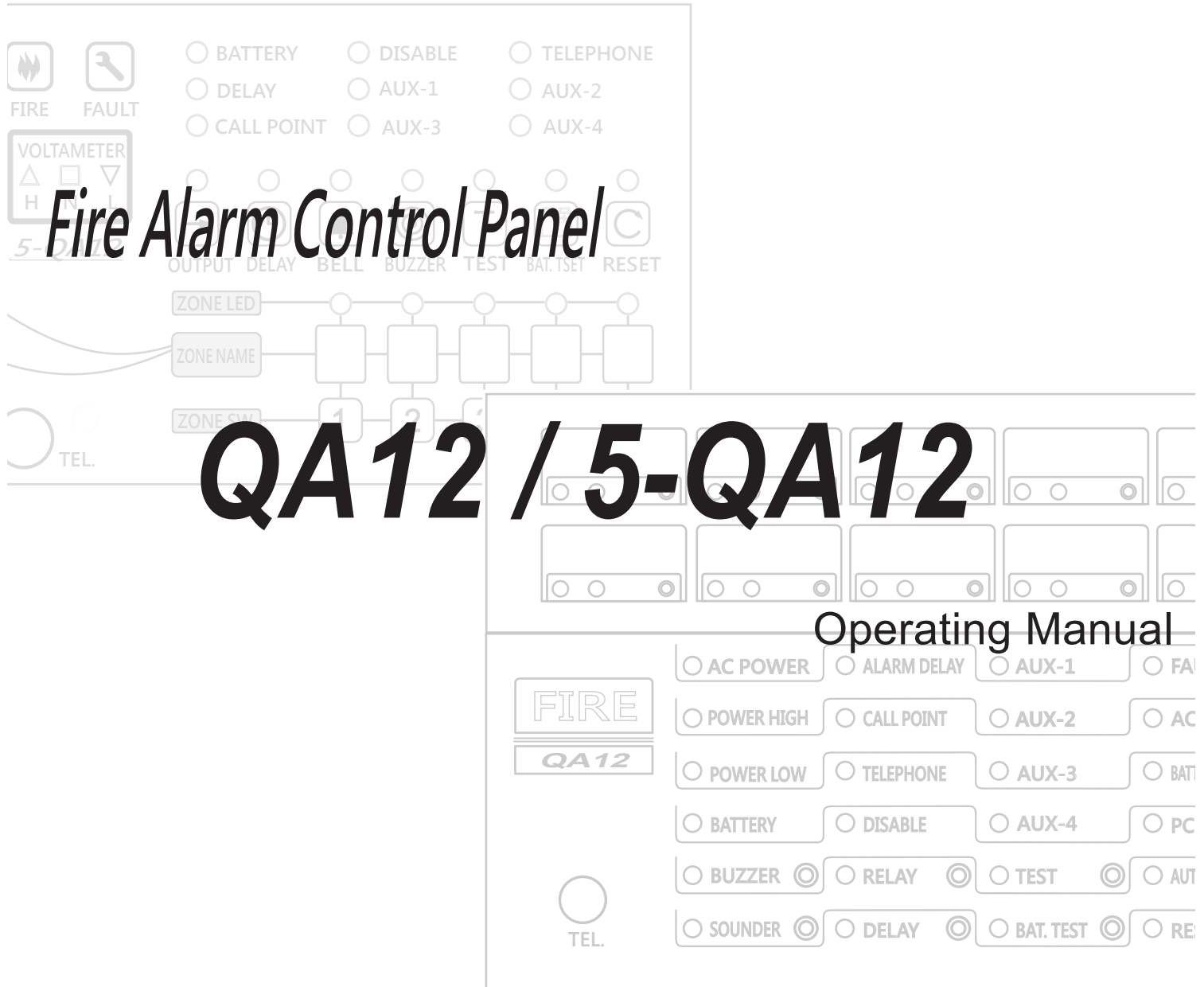


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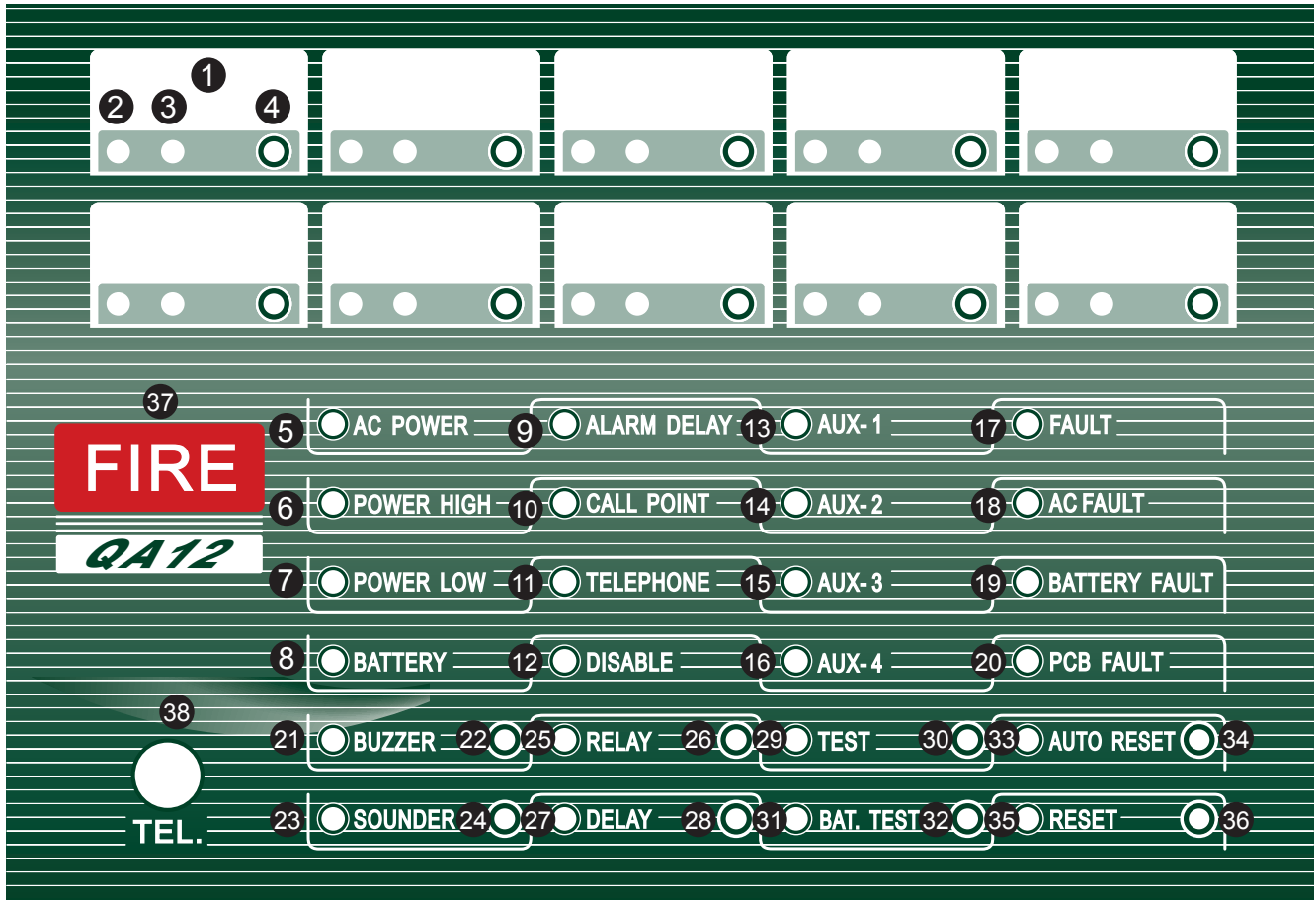
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QA12 System Characteristics :

- Alarm verification up to 7 seconds for real fire confirmation and avoid false alarm from environment interference.
- Zone test mode to perform alarm and fault functional test.
- Each zone has a separate disable function.
- Fault indications for wire disconnection, unstable AC power, battery short circuit or disconnection and internal PCB unplug.
- QA12 could up to 80 zones, 5-QA12 ups to 5 zones.

QA12 Indicators and Switches Description :



- | | | | |
|------------------------|---------------------|------------------|-----------------------|
| ① Zone Label | ⑩ Call Point LED | ⑫ Buzzer switch | ⑳ Battery Test LED |
| ② Zone Fire Indicator | ⑪ Telephone LED | ⑬ Sounder LED | ㉑ Battery Test switch |
| ③ Zone Fault Indicator | ⑫ Disable LED | ⑭ Sounder switch | ㉒ Auto Reset LED |
| ④ Zone switch | ⑬ ⑭ ⑮ Aux1~4 LED | ⑯ Relay LED | ㉓ Auto Reset switch |
| ⑤ AC Power LED | ⑰ Fault LED | ⑰ Relay switch | ㉔ Reset LED |
| ⑥ Power High LED | ⑱ AC Fault LED | ⑲ Delay LED | ㉕ Reset switch |
| ⑦ Power Low LED | ⑲ Battery Fault LED | ⑳ Delay switch | ㉖ FIRE indicator |
| ⑧ Battery LED | ㉑ PCB Fault LED | ㉑ Test LED | ㉗ Telephone jack |
| ⑨ Alarm Delay LED | ㉒ Buzzer LED | ㉒ Test switch | |

QA12 Indicator and Switches Description :

- ① Zone Label : To show the name of covered area.
- ② Zone Fire Indicator : Steady light ON means Fire status, flash light ON means Disable status.
- ③ Zone Fault Indicator : Light ON means that circuit has trouble.
- ④ Zone switch : 1. To disable zone output function when Fire is detected.
2. To perform Zone Fire Test and Zone Fault Test.
- ⑤ AC Power LED : Light ON means panel working voltage is normal.
- ⑥ Power High LED : Light ON means panel working voltage is 10% higher than the nominal voltage. Meantime the Fault LED will light ON and panel buzzer will sound.
- ⑦ Power Low LED : Light ON means panel working voltage is 10% lower than the nominal voltage. Meantime the Fault LED will light ON and panel buzzer will sound.
- ⑧ Battery LED : Light ON means panel working voltage is supplied by battery only. Meantime the Fault LED will light ON and panel buzzer will sound.
- ⑨ Alarm Delay LED : Light ON means panel is reconfirming the alarm signal from detector, LED light will OFF after 7 seconds confirmation. The panel will activate Fire condition if signal is confirmed.
- ⑩ Call Point LED : When panel receives signal from manual call point, this LED and Delay LED will both light ON. Panel will active without delay.
- ⑪ Telephone LED : When panel receives incoming call signal, LED will ON and buzzer will active.
- ⑫ Disable LED : Indicates any zone output is disabled.
- ⑬ ⑭ ⑮ ⑯ Aux1~4 LED : When panel receives external monitoring signal, LED will ON and buzzer will active.
- ⑰ Fault LED : When loop has short, open or terminal trouble, LED will light ON and flash.
- ⑱ AC Fault LED : A yellow light indicates the a break in the AC power supply.
- ⑲ Battery Fault LED : A yellow light indicates short circuit or wire-break in the Panel's battery wires.
- ⑳ PCB Fault LED : A yellow light indicates a circuit board has become disconnected.
- ㉑ Buzzer LED : 1. (temporary silence – LED steady ON)
- ㉒ Buzzer switch : When press switch once, LED ON and disable the sounder output, any new incoming fire or fault signal will enable the buzzer and LED will OFF.
2. (long silence – LED flash)
When press switch twice, LED flash and disable the buzzer output, any new incoming fire or fault signal will not enable the buzzer .
3. (normal)
When press switch three times, panel will back to normal status.
- ㉓ Sounder LED : 1. (silence)
- ㉔ Sounder switch : When press switch once, LED ON and disable the sounder output.

2. (normal)

When press switch twice, panel will back to normal status.

- 25 Relay LED : LED ON indicates relay output from panel is disabled.
- 26 Relay switch : Pressing this switch will disable the fire and fault relay output.
- 27 Delay LED : LED ON indicates the alarm delay feature is disabled.
- 28 Delay switch : Pressing this switch will disable any alarm delay.
- 29 Test LED : 1. (fault test- LED flash)
- 30 Test switch : When panel is under manual test mode, press the switch twice to lit the LED and into Zone Fault test, press each zone switch to show the fault indication and related output.

2. (fire test- LED steady ON)

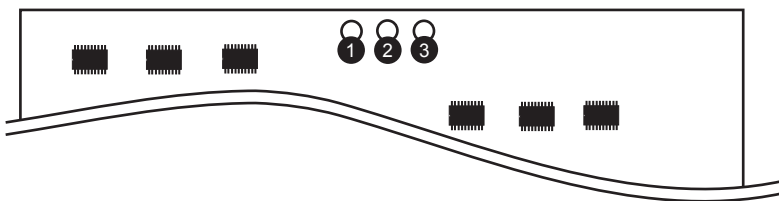
When panel is under manual test mode, press the switch once to light the LED into Zone fire test. Press each Zone switch, both Zone Fire Indicator and Alarm Delay LED will be lit on 7 seconds and then the Reset LED flashed 5 seconds. Following press each Zone switch again to show the fire indication and related output.

3. (normal)

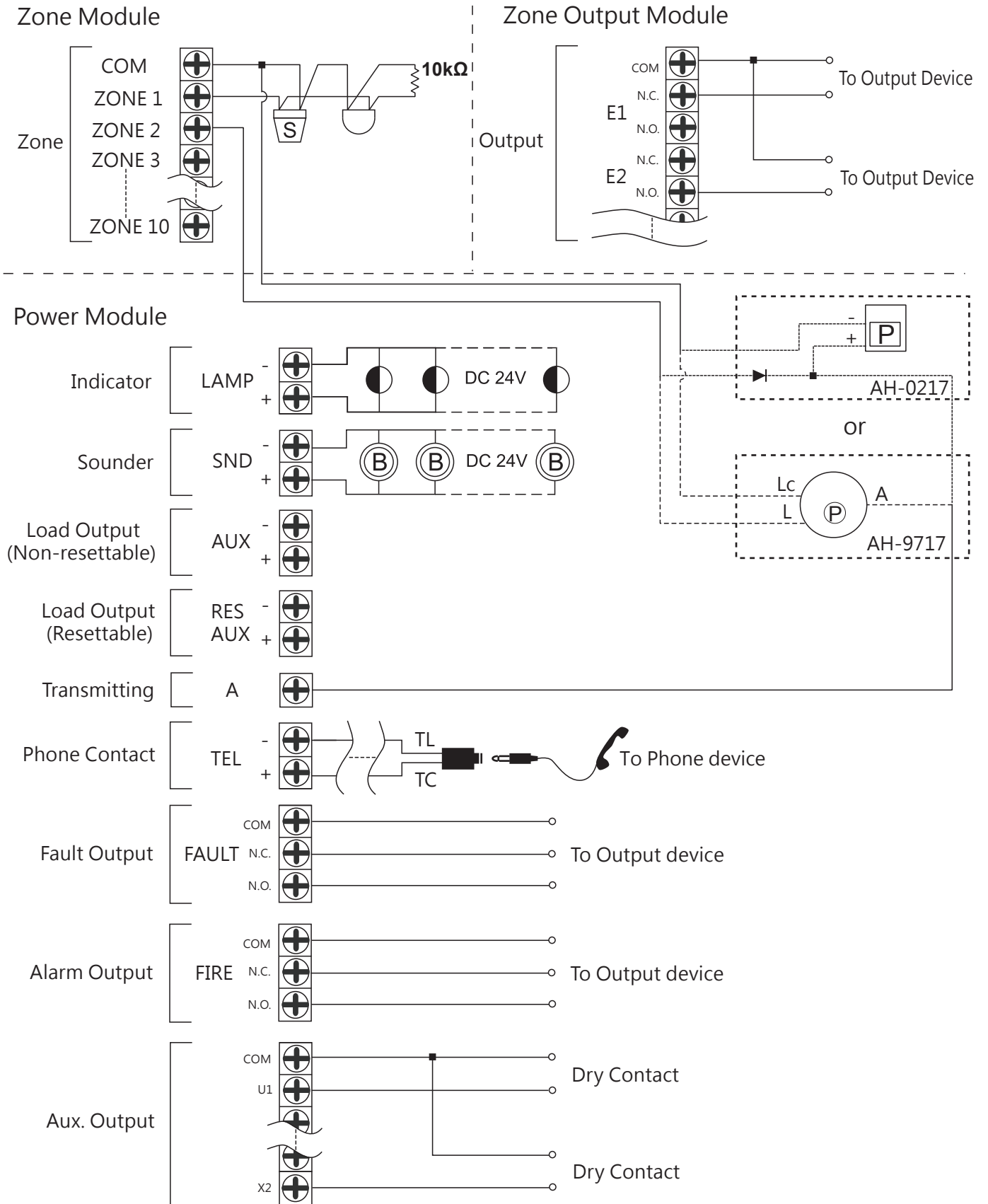
When press the switch three times, panel will back to normal status.

**Note: Any Fire happen during test period, system will automatically into [Fire mode].

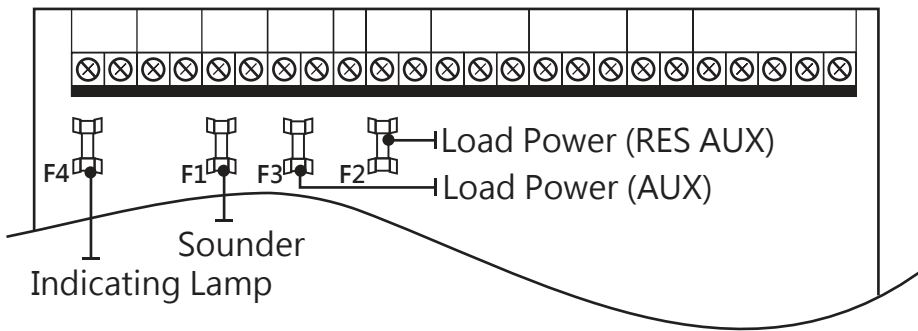
- 31 Battery Test LED : LED ON indicates panel is under battery test status.
- 32 Battery Test switch : Pressing this switch to test the back-up battery.
- 33 Auto Reset LED : LED ON indicates it is under auto reset mode, this feature is for one man walk test.
- 34 Auto Reset switch : Pressing this switch will display auto reset mode.
- 35 Reset LED : LED ON indicates it is under reset mode.
- 36 Reset switch : Pressing this switch resets the panel, LED lights ON for 5 seconds and then returns to normal status.
- 37 FIRE indicator : When the panel has received a fire signal, the LED will light ON and flash.
- 38 Telephone Jack



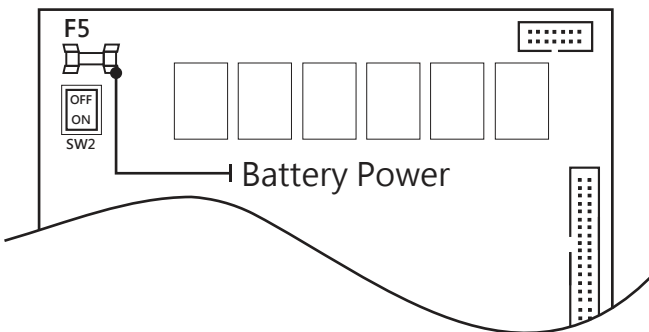
- 1 Zone PCB Connect Fault : LED ON indicates Zone module is disconnect.
- 2 Ground Fault : LED ON indicates terminal is short to ground.
- 3 AUX Fault : LED ON indicates the 06112-9A load output is fault.



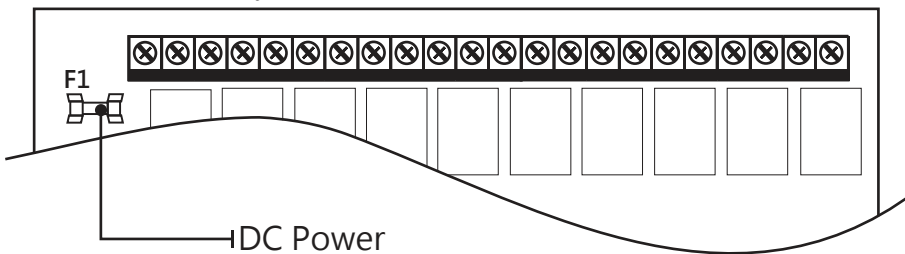
06112-9A Terminal Board



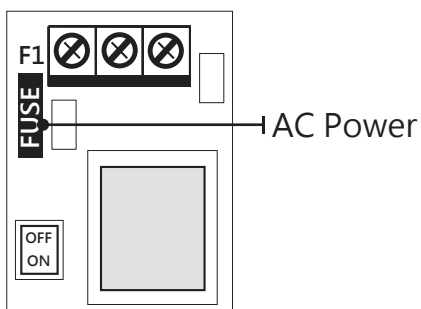
06112-2C Power Board



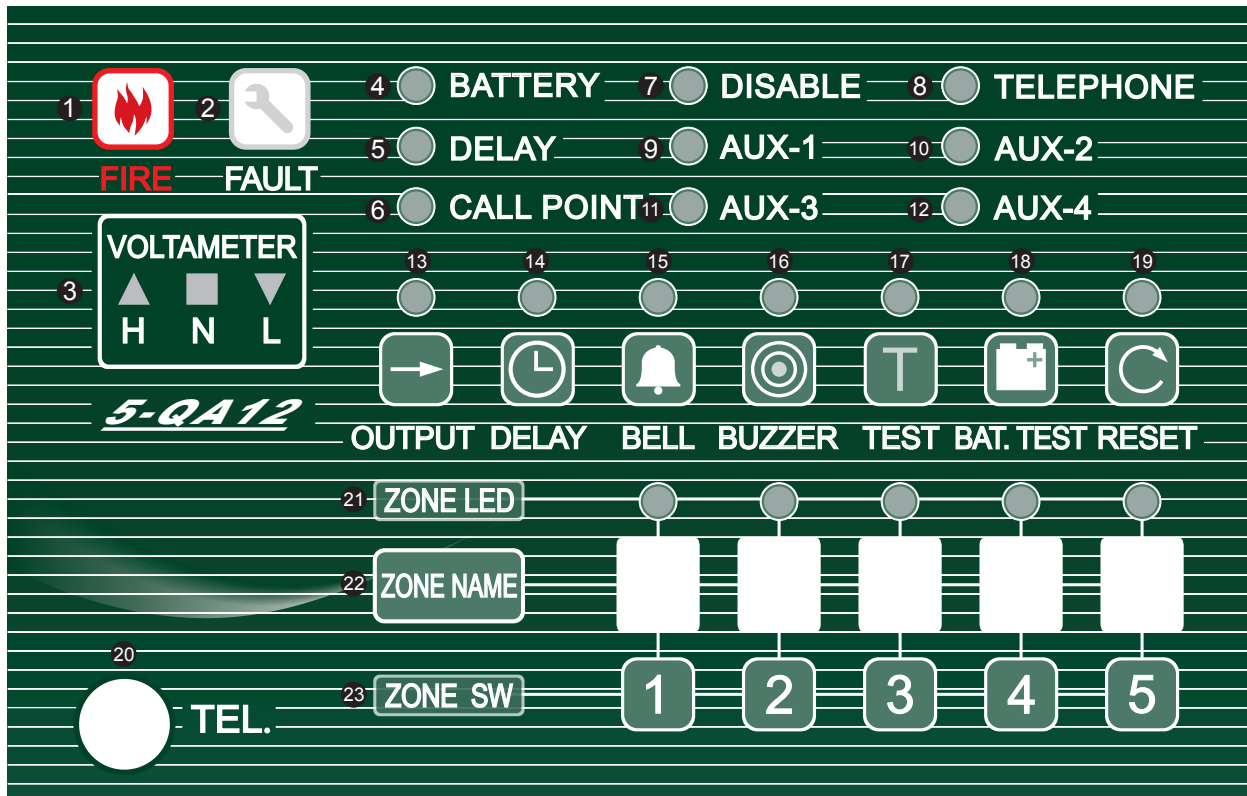
06112-5C Relay Output Board



06212-4A AC Power Board



5-QA12 Indicators and Switches Description :



- | | | |
|------------------------|---------------------|-----------------------|
| ① FIRE Indicator | ⑧ Telephone LED | ⑰ Test switch |
| ② FAULT Indicator | ⑨ ⑩ ⑪ ⑫ Aux-1~4 LED | ⑱ Battery Test switch |
| ③ Voltameter Indicator | ⑬ Output switch | ⑲ Reset switch |
| ④ Battery LED | ⑭ Delay switch | ⑳ Telephone jack |
| ⑤ Delay LED | ⑮ Bell switch | ㉑ ZONE LED |
| ⑥ Call point LED | ⑯ Buzzer switch | ㉒ ZONE NAME |
| ⑦ Disable LED | | ㉓ ZONE switch |

5-QA12 Indicators and Switches Description :

- ① FIRE Indicator : When the panel has received a fire signal, LED lights ON and flash.
- ② FAULT Indicator : When loop has short, open or terminal trouble, LED will light ON and flash.
- ③ Voltmeter Indicator : When the working voltage is too high or too low, the H or L will light ON. Meantime, the FAULT LED will ON and buzzer will active.
- ④ Battery LED : When working voltage is supplied only by battery, the LED will light ON.
- ⑤ Delay LED : Light ON means panel is reconfirming the alarm signal from detector, LED light will OFF after 7 seconds confirmation. The panel will activate Fire condition if signal is confirmed.
- ⑥ Call Point LED : When panel receives signal from manual call point, this LED and Delay LED will both light ON. Panel will active without delay.
- ⑦ Disable LED : Indicates any zone output is disabled.
- ⑧ Telephone LED : When panel receives incoming call signal, LED will ON and buzzer will active.
- ⑨⑩⑪⑫ Aux-1~4 LED : When panel receives external monitoring signal, LED will ON and buzzer will active.
- ⑬ Output switch : LED ON indicates relay output from panel is disabled.
- ⑭ Delay switch : LED ON indicates the alarm delay feature is disabled.
- ⑮ Bell switch : 1. (temporary silence – LED steady ON)
When press switch once, LED ON and disable the sounder output, any new incoming fire or fault signal will enable the sounder output and LED will OFF.
2. (long silence – LED flash)
When press switch twice, LED flash and disable the sounder output, any new incoming fire or fault signal will not enable the sounder output .
3. (normal)
When press switch three times, panel will back to normal status.
- ⑯ Buzzer switch : 1. (temporary silence – LED steady ON)
When press switch once, LED ON and disable the buzzer output, any new incoming fire or fault signal will enable the buzzer and LED will OFF.
2. (long silence – LED flash)
When press switch twice, LED flash and disable the buzzer output, any new incoming fire or fault signal will not enable the buzzer .
3. (normal)
When press switch three times, panel will back to normal status.
- ⑰ Test switch : 1. (fault test- LED flash)
When panel is under manual test mode, press the switch twice to lit the LED and into Zone Fault test, press each zone switch to show the fault indication and related output.

2. (fire test- LED steady ON)

When panel is under manual test mode, press the switch once to light the LED into Zone fire test. Press each Zone switch, both Zone Fire Indicator and Alarm Delay LED will be lit on 7 seconds and then the Reset LED flashed 5 seconds. Following press each Zone switch again to show the fire indication and related output.

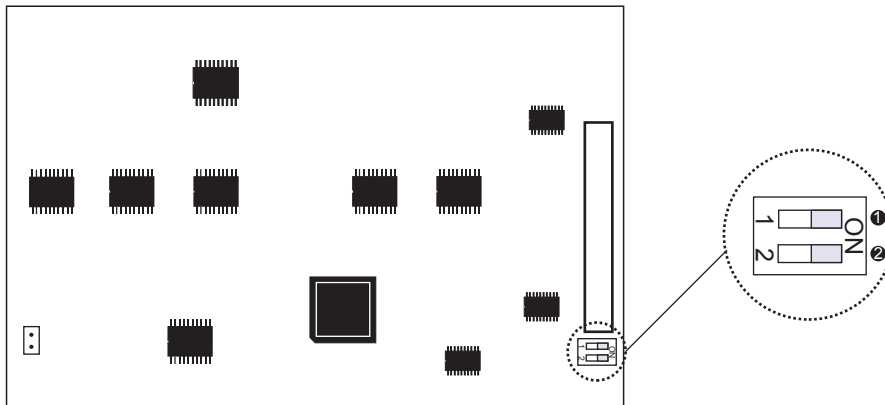
3. (normal)

When press the switch three times, panel will back to normal status.

**Note: Any Fire happen during test period, system will automatically into [Fire mode].

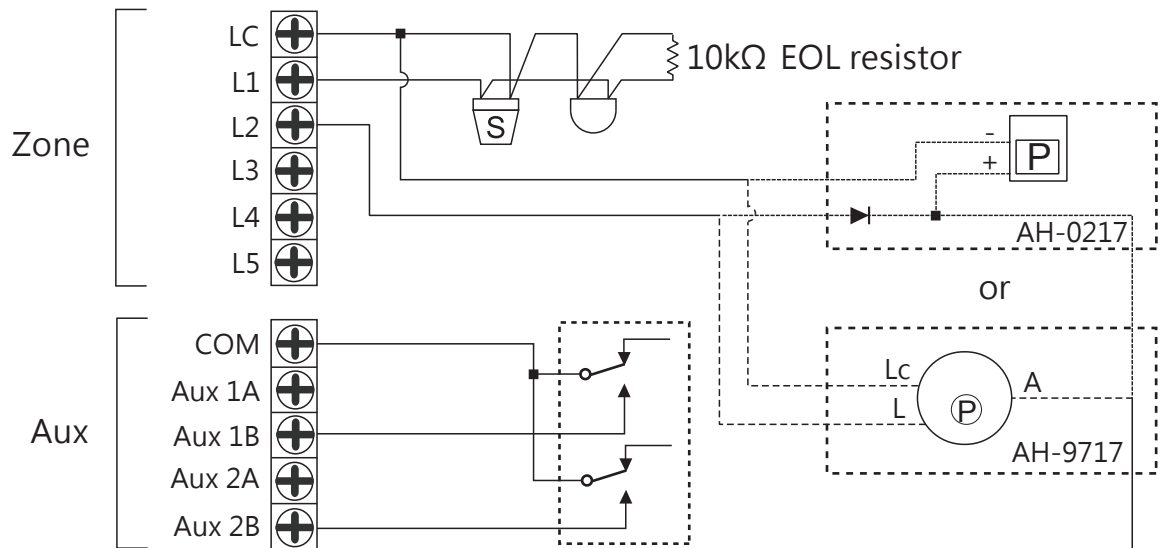
- 18 Battery Test switch : LED ON indicates panel is under battery test status.
- 19 Reset switch : Press switch once, LED will ON for 5 seconds and then back to normal status.
- 20 Telephone jack : To communicate with the manual call point's plugged phone.
- 21 ZONE LED : 1. When LED steady ON indicates zone fault.
2. When LED flash ON indicates that zone alarm output is disabled.
- 22 ZONE NAME : To show the name of covered area.
- 23 ZONE switch : 1. To disable zone output when there is an alarm.
2. To perform alarm or fault test during manual test mode.

Note : Dip switch description on PCB no. 06212-1

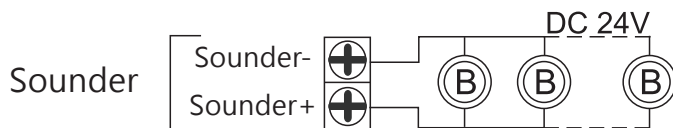
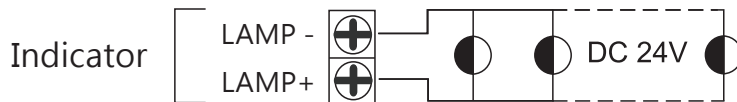
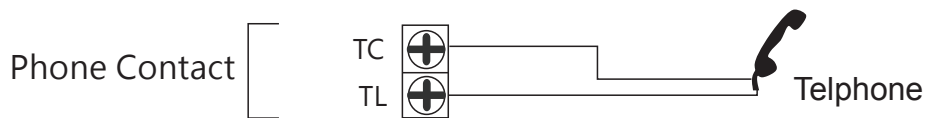
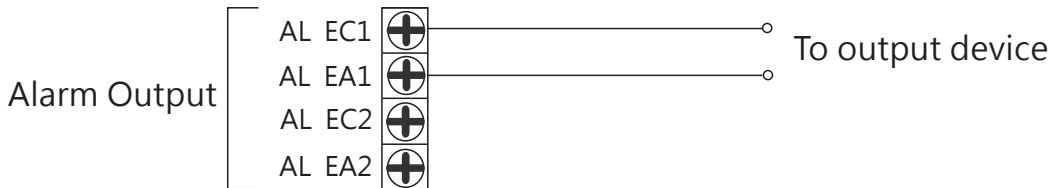
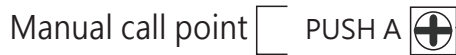


- 1. Test mode switch:
 - a. Switch to 'ON' position is under Manual test mode
 - b. Switch to '1' position is under Auto test mode
- 2. Zone indication switch:
 - a. Switch to 'ON' position is under Auto revert mode
 - b. Switch to '2' position is under Auto latching mode

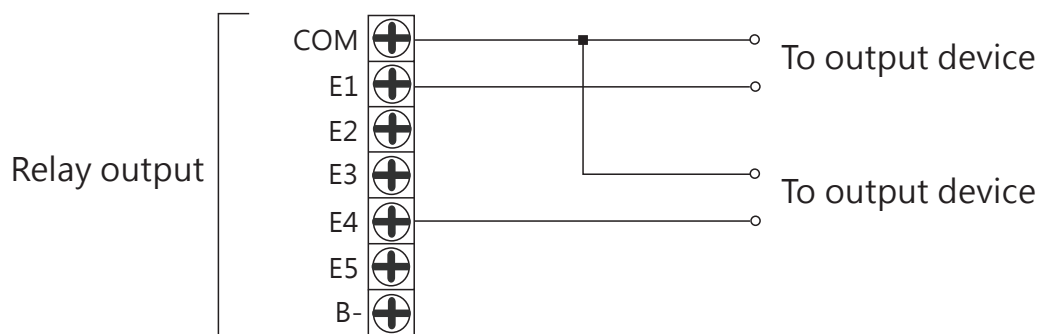
Level 1

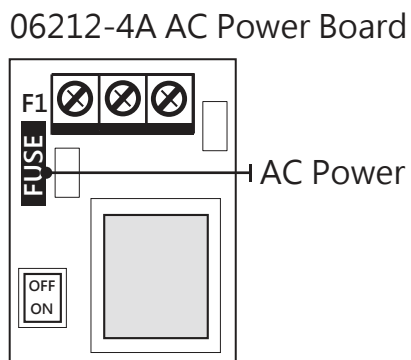
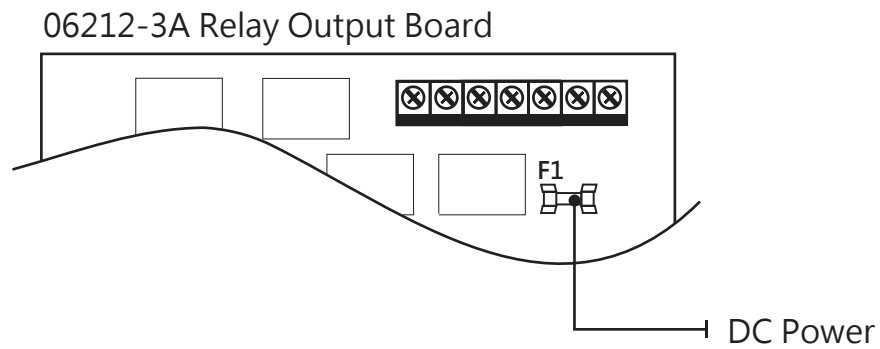
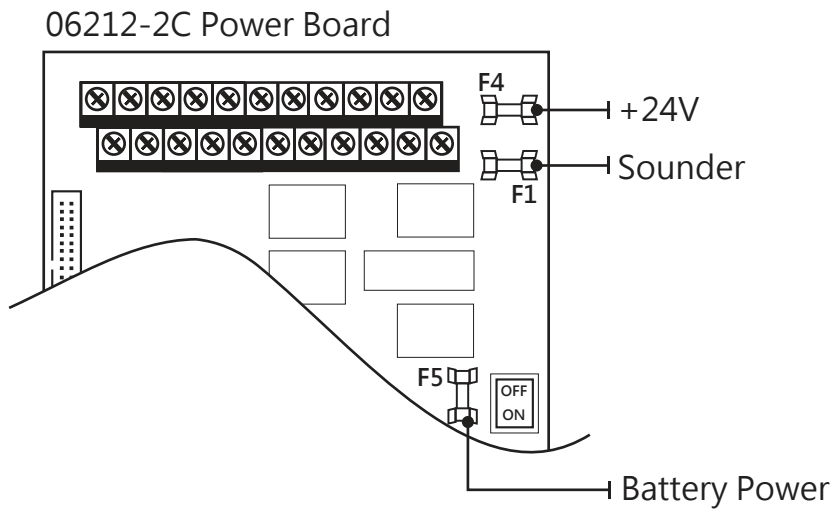


Level 2



Relay Output Module



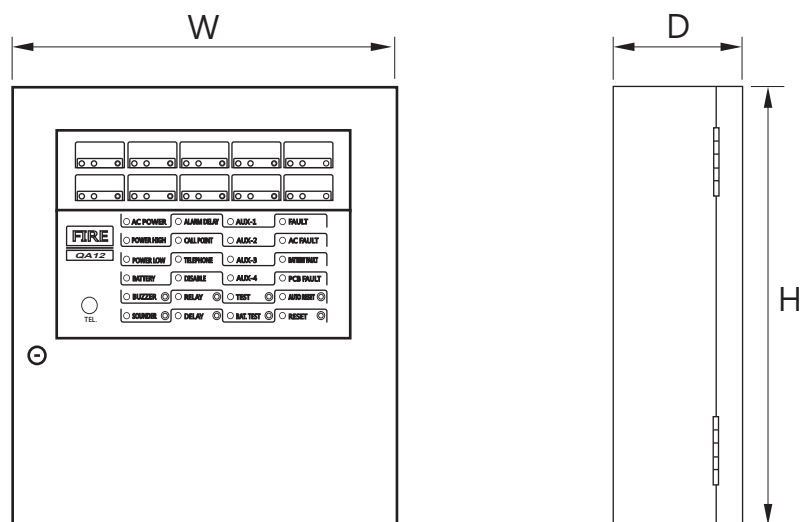


Trouble Shooting

| Trouble Symptom | Solution and Suggestion |
|--------------------------|--|
| Zone LED fault | <p>The system consists variety devices, any fault or incorrect use on detector wiring, bell, and manual call point will affect panel.</p> <ol style="list-style-type: none"> Use multi-meter measure AC power terminal, normally you should get 220 V. Check the voltage display whether the Normal LED is ON. Check fuse whether it is good. Check external facility and wiring is meet requirement. |
| Fuse function | Each fuse used in panel has individual protection function, it must not be replaced with incorrect specification and bad quality one. Burnt fuses are probably caused by wiring error, short circuit or faulty external devices. |
| AC power fuse burnt | Check the input power and fuse if they are comply to the specification. |
| Standby power fuse burnt | Check the wiring for polarity correctness. |
| Sounder fault | Disconnect the sounder wire, then use multi-meter to measure the sounder terminal and should read 24 VDC. If not, please check the external wiring. |
| Zone fault | Most zone fault caused by incorrect wiring. |
| Zone fault LED ON | <ol style="list-style-type: none"> Check the panel if there is any non-connected zone and EOL resistor. Disconnect the wire of faulty zone and replaced with 10KΩ, the fault signal should disappear. If above steps released fault means the panel is normal, please check the external wiring before connect back to panel. Check wiring for open and short condition, detector head and base is well connected, EOL resistor is well connected. Use multi-meter to measure the faulty zone resistance, normally it should read 10KΩ. |
| Zone Fault LED ON | <ol style="list-style-type: none"> Check any voltage existed between L and C after zone wire is disconnected, normally it should be 0. Check detector if it is normal. |
| Zone LED and Fire LED ON | <ol style="list-style-type: none"> Disconnect the wire of faulty zone and measure the faulty zone resistance, normally it should read 10KΩ. Disconnect the faulty zone wire and then reset the panel, replaced by 10KΩ and fix the trouble before reconnect the wire. |

Housing Specifications and Main Specifications

Housing Specifications :



| Zones | Height/mm | Width/mm | Depth/mm | Remark |
|----------|-----------|----------|----------|--------|
| 5-QA12 | 320 | 250 | 100 | |
| QA12 10L | 450 | 330 | 130 | |
| 20L | 550 | 330 | 130 | |
| 30L | 680 | 380 | 150 | |
| 40L | 950 | 420 | 150 | |
| 50L | 950 | 420 | 150 | |
| 60L | 1300 | 420 | 170 | |
| 70L | 1300 | 420 | 170 | |
| 80L | 1300 | 420 | 170 | |

Main Specifications :

| | |
|-------------------------------------|---|
| Description | |
| Power | 220 VAC 50/60Hz (Others also available) |
| Battery Capacity | 24 VDC/4A |
| Charging voltage & current | 28 VDC 100mA~400mA |
| Loop voltage & current | 24 VDC; short circuit under 5V |
| External resistance | Max. 50Ω |
| # of detector connected (Heat) | Mechanical – up to design Electronic – max. 30 per zone (Horing Lih product) |
| # of detector connected (Smoke) | Max. 30 per zone (Horing Lih product) |
| # of fire indicating lamp connected | # of zone x 1.5 |
| # of bell connected | # of zone x 1.5 |
| Relay output | Contact rating (24 VDC 3A) |
| End of line resistor | 10KΩ (One for each zone) |
| Housing | 1.2 m/m steel plate |



QA12 / 5-QA12 Fire Alarm Control Panel