Y901 Integrated Multi-Point Wireless Alarm System Specification



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1. Overview

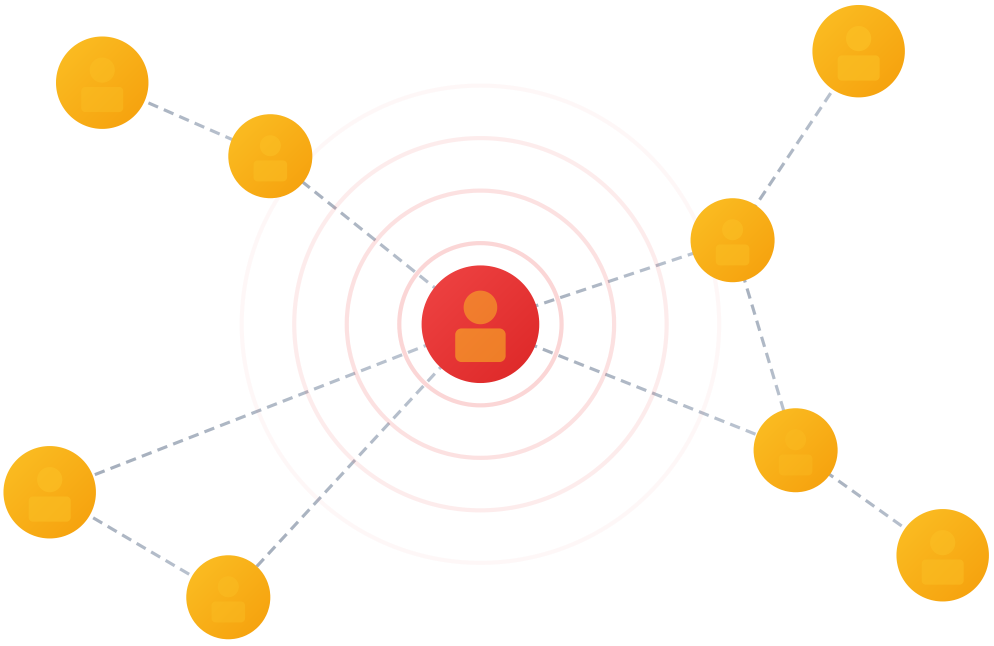
Y901 is an integrated multi-point wireless alarm system. Each node combines a latching push button, wireless linkage control, and an audible-visual alarm in an `IP67` enclosure. The product is available in `4G` and `LoRa` versions: `Y901-G` and `Y901-L`.

Pressing the latching button on any node starts that node's alarm and synchronizes the trigger state to the other nodes in the same Y901 network. Every node then activates its local audible-visual alarm. The network-wide alarm clears only after every triggered button has been reset.

Trigger Method

The built-in latching button is the only user trigger. Press it once to hold the trigger state; press it again to release and reset it. Y901 does not expose an external DI to the user and does not accept remote alarm-trigger commands from the platform.

Network Architecture



- `Y901-L` uses LoRa multi-node automatic relay networking. The standard open-area range is `5 km`, with an optional `10 km` version.
- `Y901-G` synchronizes node trigger states through the existing 4G platform or server. It does not use LoRa automatic relay networking.
- Y901 and Y902 form separate networks. Their nodes cannot join the same network.

Operating Principle

- Closing the latching switch on any node puts that node into the alarm state.
- The corresponding 4G or LoRa network synchronizes the trigger state to the other nodes.
- Each receiving node activates its local audible-visual alarm.
- LoRa nodes can relay data and search for a better communication path; 4G nodes exchange status through the platform or server.
- The network-wide alarm stops after all trigger conditions have been cleared.

2. Ordering Information

Model Code

```text
Y901-C
  │  └── C: Communication (G / L)
  └───── Y901 series
```

Communication Suffix

Suffix	Communication
`-G`	4G
`-L`	LoRa

Package Contents

Quantity	Item
1	Y901 alarm unit
1	Antenna
1	DC power adapter

3. Key Features

1. **Integrated alarm node:** Combines a latching trigger, wireless linkage control, and an audible-visual alarm.
2. **Any-node trigger:** One triggered node activates every node in the same network.
3. **LoRa automatic relay:** `Y901-L` supports automatic relay networking, with a standard `5 km` open-area range and an optional `10 km` version.
4. **Built-in trigger:** Uses only the built-in latching push button; no user-accessible external DI or remote trigger command is provided.
5. **Latched alarm state:** The trigger remains active until personnel reset the button.
6. **Wide DC input:** Supports `9–36 V DC`.
7. **Protected enclosure:** The complete unit is rated `IP67`.
8. **Two communication options:** Available with `4G` or `LoRa`.
9. **Local indication:** Provides a `95 dB` intermittent audible alarm and flashing red light.

4. Technical Specifications

Communication

Parameter	Specification
Communication	4G or LoRa

Parameter	Specification
Model suffix	`-G` or `-L`
`Y901-G` architecture	Node-state linkage through the existing 4G platform or server
`Y901-L` architecture	LoRa multi-node automatic relay networking
LoRa range	Standard `5 km` in an open area; optional `10 km` version
Communication accessories	Supplied for the ordered communication version

Electrical and Control

Parameter	Specification
Supply voltage	`9–36 V DC`
Trigger	Built-in latching button; press once to trigger and again to reset
Input type	Internal dry-contact input; no external DI exposed to the user
Alarm output	Audible-visual alarm
Sound level	`95 dB`
Light pattern	Flashing red light
Sound pattern	Intermittent tone
Linkage logic	Any triggered node activates all nodes
Reset logic	The alarm stops after every trigger source has been reset
Typical LoRa control-unit current	`30 mA @ 12 V DC`; `15 mA @ 24 V DC`, measured average
Complete-unit current	Depends on the communication version and alarm state

> The LoRa current values apply to the `Y901-L` control unit and exclude the audible-visual alarm load. Size the power supply and any backup battery for the maximum complete-unit current.

> Test the `Y901-G` 4G control-unit current with the delivered hardware and network state. Do not apply the LoRa current values to the 4G version.

Environment and Construction

Parameter	Specification
Operating temperature	`-20 to +85°C`
Operating humidity	`10–90% RH`, non-condensing
Product form	Integrated latching trigger, wireless linkage controller, and audible-visual alarm
Mounting	Confirmed for the delivered enclosure version
Dimensions	Confirmed for the delivered enclosure version
Ingress protection	`IP67`

5. Interfaces and Indicators

Interface or Component	Description
Antenna	Antenna supplied for the selected 4G or LoRa version
Power input	`9–36 V DC`; use a stable DC supply
Latching button	The only user trigger; press once to hold and again to reset
Audible-visual alarm	Local `95 dB` intermittent tone and flashing red light

6. Important Notes

1. **Alarm retention:** The network-wide alarm remains active while any node stays triggered.
2. **4G linkage:** `Y901-G` synchronizes trigger states through the existing platform or server. The platform does not issue user remote-trigger commands to the device.
3. **LoRa linkage:** `Y901-L` supports automatic relay networking, with a standard `5 km` open-area range and an optional `10 km` version.
4. **Network separation:** Y901 and Y902 nodes cannot join the same network.
5. **Input boundary:** Y901 uses only its built-in latching button and does not expose an external DI.
6. **Manual reset:** Personnel must reset every triggered button before the system can leave the alarm state.
7. **Safety boundary:** Y901 supports auxiliary alarming and personnel notification. It must not serve as the only emergency-stop, life-safety, or hard real-time safety circuit.
8. **Antenna installation:** Keep the antenna out of enclosed metal spaces and away from strong interference sources.
9. **Ingress boundary:** `IP67` does not permit prolonged immersion or abnormal mechanical pressure.
10. **Delivered configuration:** Confirm the enclosure, mounting, and structural details from the shipped product documents.

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