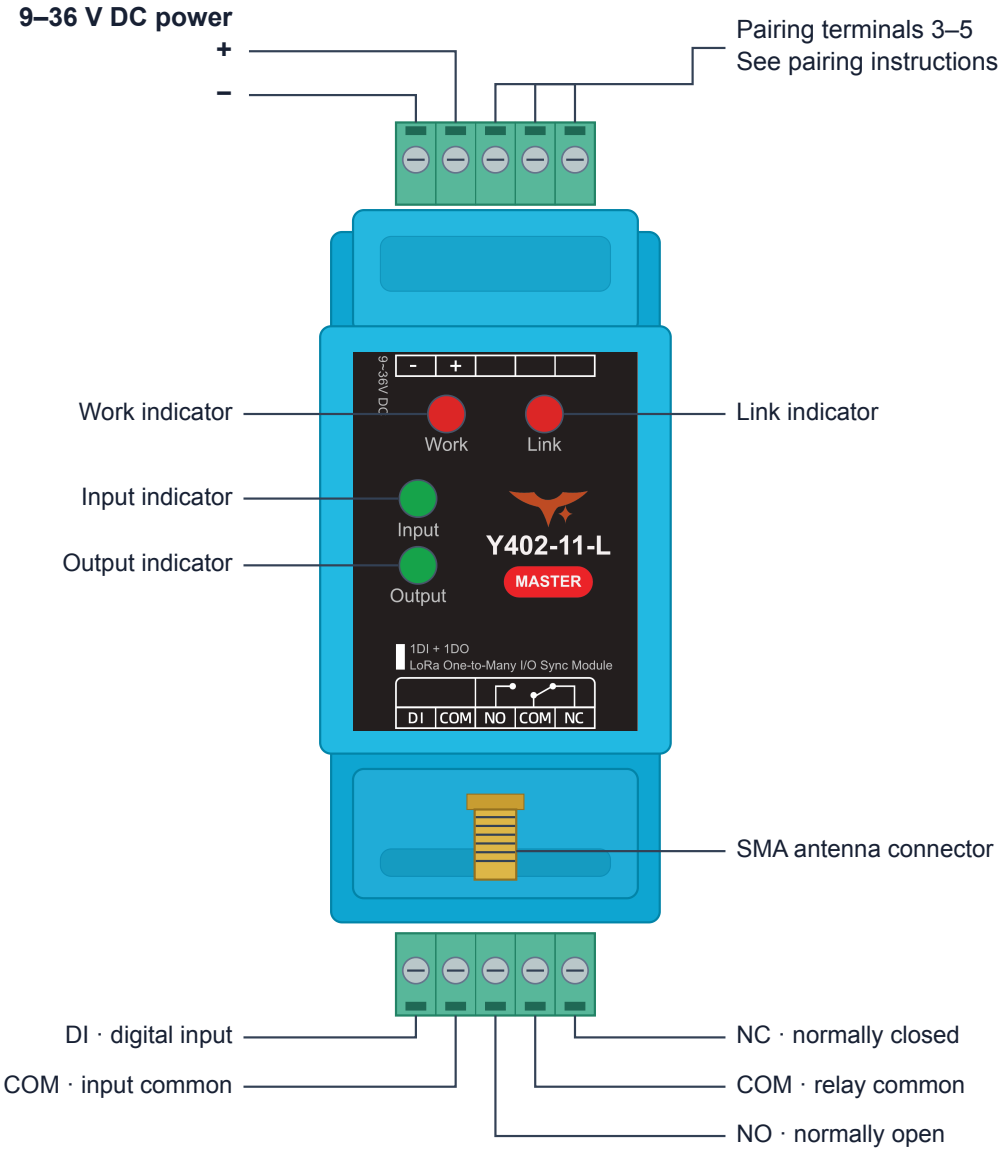
Y402-11/44/41-L One-to-Many Wireless I/O Module User Manual



Product Introduction

Applicable models: Y402-11-L, Y402-44-L, Y402-41-L.

Y402 transfers dry-contact or NPN open-collector input states between one master and multiple slaves over LoRa. Y402-11-L and Y402-44-L share channels across slaves; Y402-41-L assigns each master channel to one slave. No gateway or Internet connection is required.

Use the linked model specifications for dimensions and technical ratings, and the Selection Guide for model comparison.

Operating Logic

Channel Mapping

Y402-11-L	Y402-44-L	Y402-41-L
		

The Y402-41-L units shown are labeled Y402-4411-L on the faceplate.

Use one master per system, with one or more slaves. Closing an input energizes the remote output shown below.

Model	Master to Slave	Slave to Master
Y402-11-L	Master DI1 → all Slave DO1	Any Slave DI1 → Master DO1
Y402-44-L	Master DI1 to DI4 → all Slave DO1 to DO4	Any Slave DI1 to DI4 → Master DO1 to DO4

Model	Master to Slave	Slave to Master
Y402-41-L	Master DI1 to DI4 → the DO on the assigned one-channel slave	Each slave DI → the corresponding Master DO1 to DO4

During normal communication, on Y402-11-L and Y402-44-L, the master output resets only after the corresponding input on all slave devices returns to open. For Y402-41-L, each master output follows the input state of its assigned one-channel slave.

Y402-41-L supports up to four assigned one-channel slaves. Each slave output follows its assigned master input; use this assignment when adding or replacing a slave.

Communication Loss

If wireless communication is lost, the receiver retains the last relay output states for approximately 80 seconds. If communication has not recovered by then, the relay outputs automatically reset to the de-energized (OFF) state. The normally open (`NO` – `COM`) contacts open. This timeout is separate from the normal input-following logic.

Installation and Wiring

The cover shows Y402-11-L. Identify terminals from the device markings and the applicable model specification. Input `COM` and relay `COM` serve different circuits.

Power Wiring

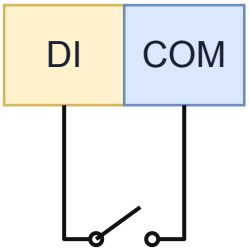
Disconnect module and load power before wiring. Connect each module's marked power + and – to a regulated 9–36 V DC supply. Check polarity before power-up.

Antenna Installation

1. Connect the supplied matching antenna before power-up and tighten the SMA connector by hand.
2. Mount the antenna vertically, about 2 m above ground where possible, clear of metal structures and outside metal cabinets.
3. Mount the module on a 35 mm DIN rail inside a suitable enclosure. Leave space for wiring and ventilation. Place the master near the center of the coverage area where possible.

Input Wiring

Connect a dry contact between `DI` and input `COM`. For an NPN open-collector output, connect its collector to `DI` and emitter or 0 V reference to input `COM`. Power the sensor separately according to its rating.



No voltage input on DI

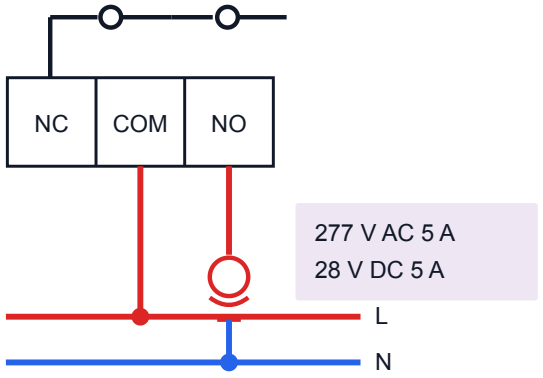
Do not connect sensor power or a voltage-output signal directly to `DI`. Use an intermediate relay for PNP or other powered outputs, and connect only its dry contact to `DI` and `COM`.

Output Wiring

When the relay energizes, `NO–COM` closes and `NC–COM` opens.

The relay contacts supply no voltage. Wire the external load supply and load in series through relay `COM` and `NO` for normally open operation. Fit overcurrent protection and surge suppression for the load.

Small Loads

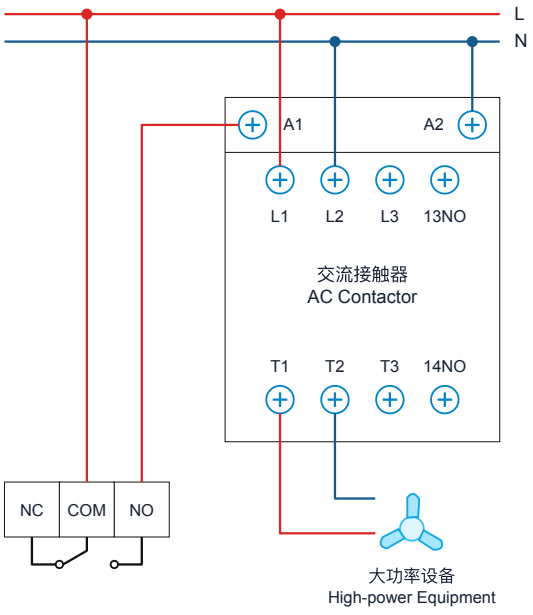


Keep a directly switched resistive load within both contact limits: 5 A at 277 V AC or 5 A at 28 V DC. Use a suitably rated external contactor or power relay for high-power or inductive loads; the module relay switches its coil.

Contactor-Controlled Loads

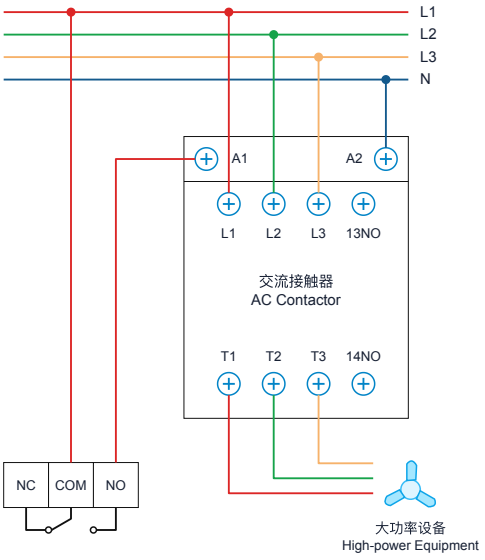
Large Loads

The contactor switches the equipment load; the module switches the contactor coil.



Three-Phase Equipment

Use a three-phase contactor to switch the motor circuit.

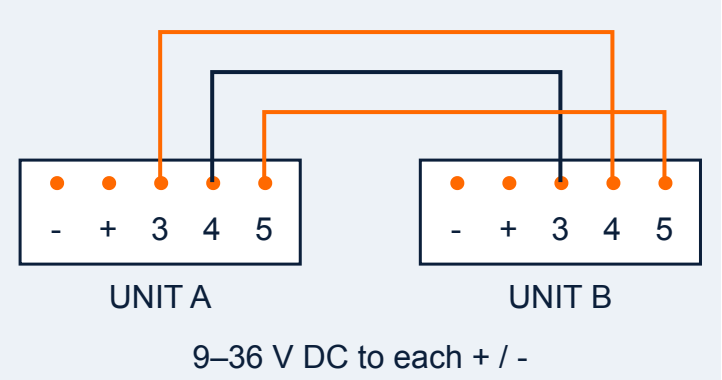


Pairing and Configuration

A factory-matched master/slave set is already paired. To add or replace a slave, pair the master with that slave using the three-wire procedure. Use only one master in the system. For Y402-41-L, confirm the assigned master channel for each slave.

1. Power off both units and isolate the loads.

2. Connect the temporary pairing wires between the two units: position 3 to 4, position 4 to 3, and position 5 to 5. The positions are shown in the pairing diagram; confirm the physical terminal markings on the device.
3. Connect each unit to its 9–36 V DC supply, observing polarity.
4. Power on and wait for both link indicators to remain on.
5. Power off, remove the temporary pairing wires, then power on and test the wireless control logic.



Commissioning

Initial Setup

Before applying power, check the model, channel assignments, pairing, antennas, power polarity, and signal/load wiring. Keep control loads isolated during the functional checks.

LED Indicators

LED	Status
Work / Power	On after power-up
Link	On when the wireless link is established
Input	On when the corresponding DI is closed
Output	On when the corresponding relay is energized

On the Y402-41-L master, Link 1–4 show the individual slave links. Input/output numbers identify the matching channel.

Functional Checks

1. Isolate the control loads and power the master and slave units with their antennas connected.
2. For Y402-11-L or Y402-44-L, close a master DI and confirm that the matching DO on every slave energizes. Open the master DI and confirm that those slave outputs reset.
3. For Y402-11-L or Y402-44-L, close a slave DI and confirm the matching master DO energizes. If multiple slaves are installed, close the same channel on another slave, then open the first input. The master output must remain energized during normal communication until that channel on every slave is open.
4. For Y402-41-L, test master DI1–DI4 against their assigned slave outputs. Test each slave DI against the corresponding master DO. Each output follows its associated input; check the channel assignment at both ends.
5. Repeat for each installed channel and slave. Test at the final locations, including the communication-loss reset with loads isolated, before connecting the control loads.

Troubleshooting

Symptom	Checks
No wireless link	Check power at each unit, antenna connections and placement, and the supplied pairing or completed pairing procedure.
Input indicator does not turn on	Check the dry contact or NPN open-collector connection between DI and COM. Do not apply a voltage signal to DI.
Relay action does not match the expected input	Check the model and slave assignment. On Y402-11-L and Y402-44-L, a master output stays energized while the same input on any slave is closed. On Y402-41-L, check the assigned one-channel slave.

Symptom	Checks
Relay operates but the load does not	Check NO/COM/NC selection, the external load supply, wiring, protection devices, and load ratings. Relay contacts do not supply voltage.
Intermittent communication or timeout reset	Check antenna clearance, obstructions, interference, and power at the final locations. Isolate control loads while checking the communication-loss behavior.

Safety Notes

- Use a certified power supply and confirm polarity before power-up.
- Do not install the device in explosive, high-humidity, corrosive, or heavily dusty environments.
- Do not exceed the relay contact rating.
- Do not use the wireless link as the only protection path for emergency stop, personnel safety, or other hard real-time safety functions.
- High-voltage AC wiring must be performed by qualified personnel.

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