

YenGear Toolbox

Configuration Tool User Manual

Contents

1. Getting started
2. Connect to the device
3. Read the IO panel
4. Control digital outputs
5. Configure a DI-following linkage rule
6. Software settings
7. Disconnect after configuration
8. Troubleshooting

1. Getting started

Use **Configuration Tool** to connect to a device, monitor inputs, control outputs and configure linkage rules. The examples use **Y301-444**. Select the model, port and serial settings for your own device.

Control names match the screenshots and may differ in your installed version.

Before you begin

- Install YenGear Toolbox.
- Power the device and connect it to the computer through the appropriate serial adapter. Follow the device documentation for wiring.
- Identify the COM port and the device's current serial settings. Close any other application using the port.
- Check that the connected equipment can be operated safely before switching an output or enabling a linkage rule.

Open YenGear Toolbox and select **EN** at the top right to use the English interface.

2. Connect to the device

2.1 Select the product and serial settings

1. Open **Configuration Tool**.
2. Search for your model in the left panel, then select the matching product. This example uses **Y301-444**.
3. Select the device's serial port under **Port**.
4. Set **Baud**, **Parity**, **Databits** and **Stopbits** to match the device.

Field	Setting in this example	Meaning
Port	COM3	Serial port connected to the device
Baud	9600	Baud rate
Parity	NONE	No parity
Databits	8	Eight data bits
Stopbits	1	One stop bit

These settings apply to the computer's serial connection. They do not change the device's stored communication parameters.

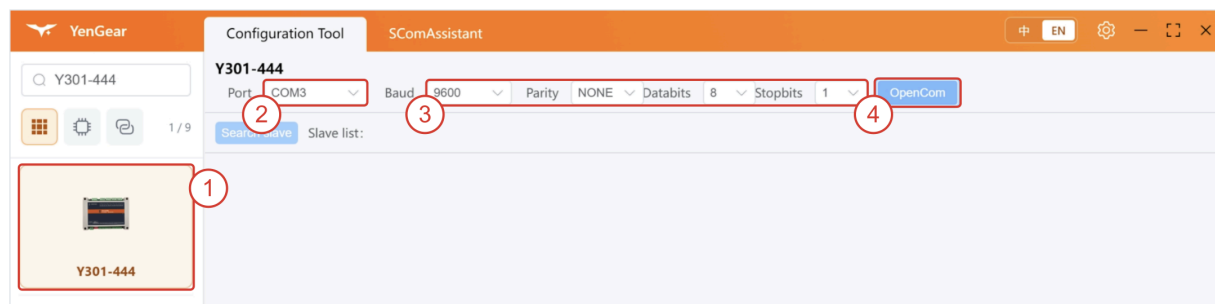


Figure 1. Select Y301-444 and match the serial connection settings.

1. **Select Y301-444**: search for the model, then select the matching product.
2. **Port**: select the device's serial port. This example uses **COM3**.
3. **Serial settings**: match the device. This example uses **9600**, **NONE**, **8**, **1**.
4. **OpenCom**: open the selected serial port.

2.2 Open the serial port

1. Click **OpenCom**.
2. Check that the button changes to **Close COM3**, with the port name you selected.

The connection fields are unavailable while the port is open. Next, search for and select the slave to open its device tabs.

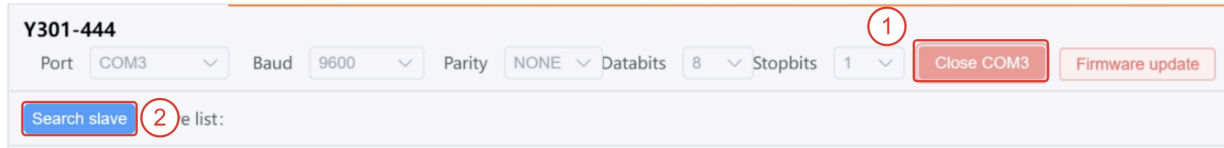


Figure 2. The port is open and Search slave is available.

1. **Close COM3** confirms that the port is open. The serial settings are unavailable while it is open.
2. **Search slave** starts the search for the connected device.

2.3 Search for and select the slave

1. Click **Search slave**.
2. Find the connected device in **Slave list**.
3. Select the entry with the correct address and model. This example uses **Slave1: Y301-444-4V10A20**.
4. Check that the device tabs appear below the selected slave.

During the search, the button changes to **Stop** and displays scan progress. In Figure 3, **16/255** shows progress, not the number of connected devices. Click **Stop** to end the scan if needed.

Check the selected slave's address and model above the tabs before changing outputs or rules, especially when several devices are connected.

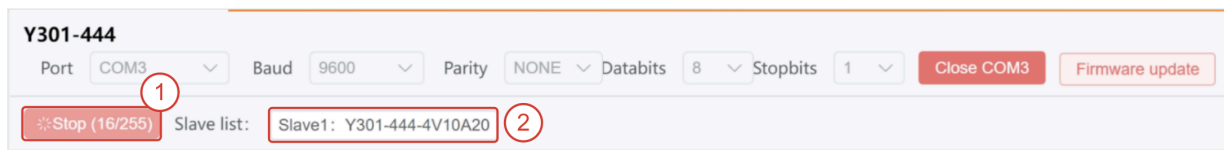


Figure 3. A matching slave is listed while the search is running.

1. **Stop** and the progress indicator show that a search is running; **16/255** is scan progress, not a device count.
2. Select the slave with the correct address and model. This example uses **Slave1: Y301-444-4V10A20**.

3. Read the IO panel

Select **IO panel** for the connected slave. The example device displays four DI channels, four DO channels and four AI channels.

3.1 Refresh the displayed values

Click **Refresh** beside the tabs to update the panel, or use a section's **Refresh** button to update only DI, DO or AI.

To monitor changing values, enable **Auto** and set **Interval** in milliseconds. The example uses **1000 ms** (one second).

3.2 Read digital inputs

The **DI1** to **DI4** indicators show digital input states. An illuminated indicator means the input is active. The indicators display states; clicking them does not control an output.

Refresh the panel after changing an input signal.

3.3 Read analog inputs

Each AI channel has a gauge and a **U / I** selector:

Selection	Display
U	Voltage reading
I	Current reading

Select **U** or **I** to match the connected signal, then refresh the reading and check the gauge unit. This selector changes the display, not the input's electrical configuration or wiring. Use only the reading that matches the connected signal.

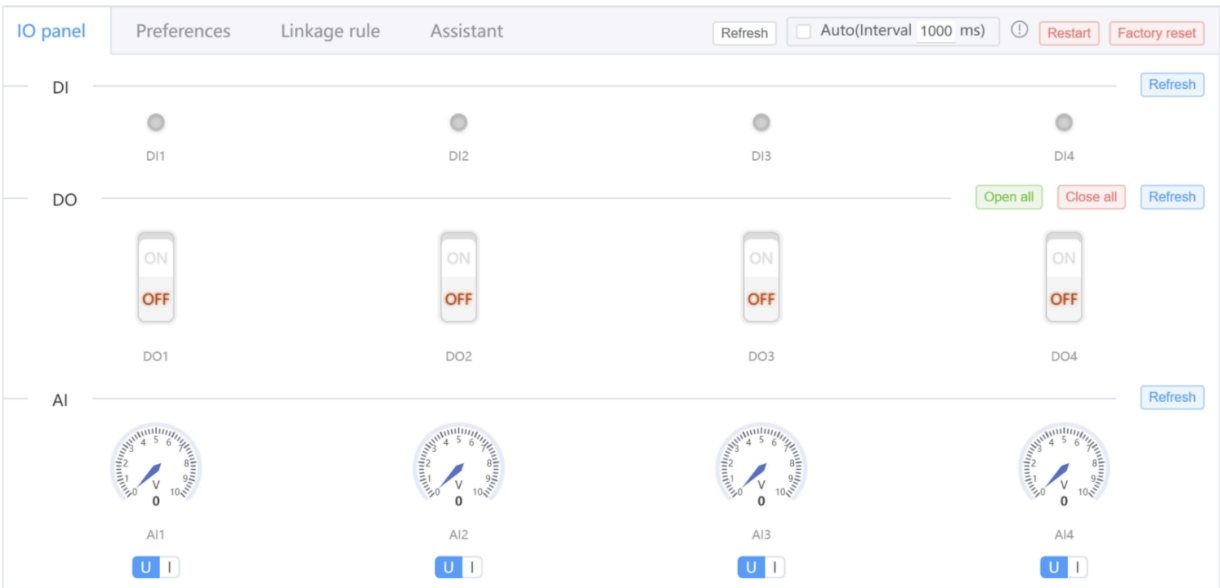


Figure 4. IO panel with DI indicators, DO controls, AI gauges and refresh controls.

4. Control digital outputs

Each channel in the **DO** section has an **ON / OFF** control. For a relay's normally open contact, **ON** means closed and **OFF** means open.

Turn an output ON

1. Check the selected slave and the DO channel number.
2. Click **ON** for the required channel.
3. Click **Refresh** in the DO section to read back the output state.
4. Check that the connected equipment responds as expected.

To turn an output off, select **OFF** for that channel and read back its state. Figure 5 shows **DO1** and **DO2** ON, with **DO3** and **DO4** OFF.

Open all and **Close all** control the DO group. Use the channel's own control to change a single output.

An enabled linkage rule can also control the output. If its state changes after a manual command, check the rules for that channel before repeating the command.

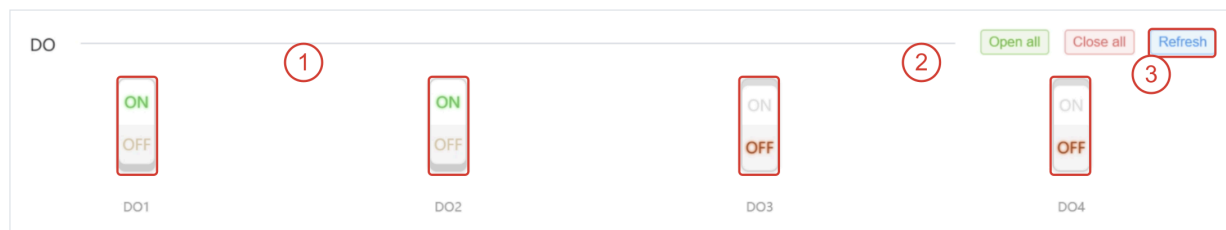


Figure 5. DO1 and DO2 are ON; DO3 and DO4 are OFF.

1. Click **ON** for the required output. **DO1** and **DO2** are ON in this example.
2. Check the other outputs. **DO3** and **DO4** are OFF here.
3. Click **Refresh** in the DO section to read back the output state.

5. Configure a DI-following linkage rule

A linkage rule controls an output in response to an input or another supported condition. This example configures **DO1 to follow DI1** with the **Forward** action.

5.1 Open the rule page and select a mode

1. Select **Linkage rule** for the connected slave.
2. Click **Refresh all rules** to read the current rules before editing.
3. Open the **Schema** dropdown in the row you want to configure.
4. Select **DI Following (continuous)**.

Schema is the rule mode column. Open the dropdown to read a mode name that is cut off in the selected field.

To disable a rule, select **Close** under **Schema** in that row, click its **Save** button, then click **Refresh all rules** to read it back. Here, **Close** disables the rule; it does not close the relay contact. Check the output state separately.

IO panel	Preferences	Linkage rule	Assistant
1			
Schema	Action	DO No.	DI/AI No.
DI Following (contir) (x)	Forward	Select DO	Select DI
Close			
DI Following (continuous)			

Figure 6. Choose DI Following (continuous) in the Schema dropdown.

1. **Linkage rule** tab.
2. **Schema: DI Following (continuous)**.
3. **Action: Forward**.

5.2 Complete the example rule

Set the first row as follows. With **Forward**, DO1 is ON while DI1 is active and OFF while DI1 is inactive.

Field	Value
Schema	DI Following (continuous)
Action	Forward
DO No. (output)	DO1
DI/AI No. (input)	DI1
Parameter 1 / Parameter 2	Leave blank; not used in this mode

Parameter fields have different meanings in other modes. Leave them blank for this DI-following rule.

5.3 Save, read back and test the rule

1. Check the mode, action, output channel and input channel.
2. Click **Save** in the **Operate** column of the same row.
3. Click **Refresh all rules** to read back the saved values.
4. Check that the row shows **DI Following (continuous)**, **Forward**, **DO1** and **DI1**.
5. Apply an input signal to DI1 and refresh the **IO panel**. Check that DI1 is active and DO1 is ON.
6. Remove the DI1 signal and refresh the panel. Check that DI1 is inactive and DO1 is OFF.

Check the connected equipment in both input states as well as the panel readings.

The screenshot shows the 'Linkage rule' configuration window. At the top, there's a search bar and a 'Close' button. Below it, there are tabs for 'IO panel', 'Preferences', 'Linkage rule' (selected), and 'Assistant'. On the right, there are 'Restart' and 'Factory reset' buttons. The main area contains a table with the following columns: Schema, Action, DO No., DI/AI No., Parameter 1, Parameter 2, and Operate. The first row is highlighted with red boxes and numbered 1 through 5. 1 points to the 'Schema' dropdown (DI Following (contir)). 2 points to the 'Action' dropdown (Forward). 3 points to the 'DO No.' dropdown (DO1). 4 points to the 'DI/AI No.' dropdown (DI1). 5 points to the 'Operate' column, specifically the 'Save' button. There is also a 'Refresh all rules' button at the top right of the table area.

Figure 7. DI1-to-DO1 rule fields and the row's Save button.

1. **Schema: DI Following (continuous).** Leave Parameter 1 and Parameter 2 blank.
2. **Action: Forward.**
3. **DO No.: DO1.**
4. **DI/AI No.: DI1.**
5. Click **Save** in the same row, then **Refresh all rules** to read back the saved values.

6. Software settings

Click the gear icon at the top right to open **Settings**. These controls apply to YenGear Toolbox; device parameters are on the device's **Preferences** tab.

Section	Control	Use
General	Language	Choose the interface language
Communication	Command timeout (ms)	Set how long the application waits for a device response
Updates & about	Version and update controls	View the software version and check update status

Click **Save** to apply changes. Click **Cancel** or close the dialog to discard them. You can also switch to English directly with **EN** in the main window.

Update options depend on the installed software version and connection.

7. Disconnect after configuration

Wait for the current device operation to finish, then click the port-close button, such as **Close COM3**. To reconnect, open the port, search for the slave and select it again.

If you change the device's stored serial parameters or address in **Preferences**, use the new settings when reconnecting once the changes take effect.

8. Troubleshooting

Symptom	What to check
The expected COM port is missing	Check the adapter connection and its operating-system driver, then check the available ports again.
OpenCom fails	Check that the selected port is available and close any other application using it.
The port opens, but no slave is found	Check power, serial wiring, selected product and the device's current baud rate, parity, data bits and stop bits.
The wrong device page opens	Check the model and address in the selected slave label. Select the intended slave.
The panel does not update	Check that the serial port is still open. Click Refresh, or enable Auto and check Interval.
An AI value does not match the connected signal	Check the wiring, the selected U/I display and the unit shown on the gauge.
A DO changes after being switched manually	Check enabled linkage rules that control that DO.
A rule does not produce the expected result	Read back the rule and check its mode, action, input and output. Test both input states and check for other enabled rules controlling the same output.