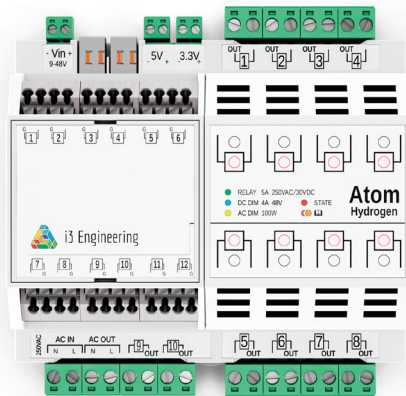
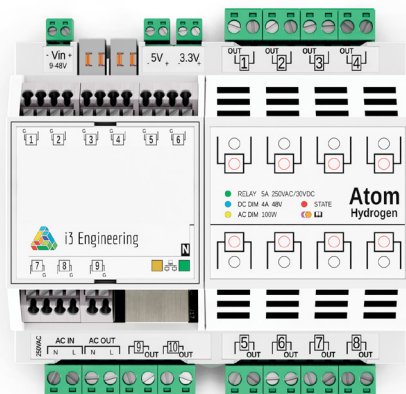


STARTING GUIDE FOR CONTROLLERS ATOM SERIES 6U

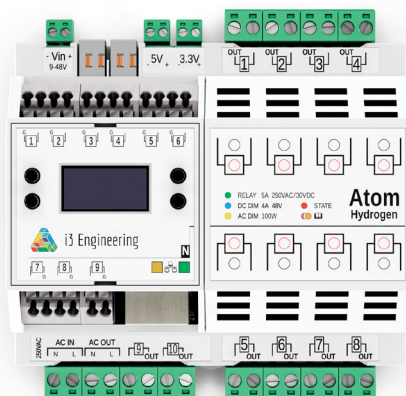
MODIFICATIONS



Atom
Basic version

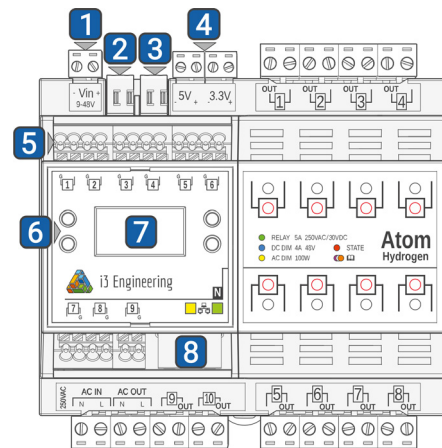


Atom N
Connect wireless devices
and use remote control



OLED-display
Optional for Atom N
Configure and diagnose devices
without internet connection

FUNCTIONAL ELEMENTS



For all controllers, Atom series 6U:

1. Power supply 9-48V DC
2. CAN bus ensures synchronized operation of all Atom series devices
3. Integrate 3rd party devices using RS-485 interface
4. 5V and 3.3V ports for sensors power supply
5. 12 multifunction input ports (9 in N modification) for temperature, air quality, water leakage sensors and switches connection
6. Buttons for navigation and control of the OLED display menu
7. Graphic OLED display for control and monitoring (optional for N modification)
8. Ethernet port for network connection. Possibility of remote control using the phone or voice assistants (N modification)

OUTPUTS

Atom Hydrogen

- **Energy meter** with the ability to accurately measure voltage, current and power consumption
- **2 x 5A relays** for connection of electrical devices
- **8 x i3-flex slots for changeable modules connection** (DCD Module, ACD Module, ACD+ Module, 10D Module, R Module)

Atom Helium

- **Energy meter** with the ability to accurately measure voltage, current and power consumption
- **2 x 5A relays** for connection of electrical devices
- **3 dimming outputs built on MOSFET bases with built-in load control meter** to control AC loads
- **4 x 10A relays with built-in load control meter** for connection of electrical devices

Atom Neon

- **4 x 5A relays** for connection of electrical devices
- **8 dimming outputs built on MOSFET bases with built-in load control meter** to control DC loads

Atom Ferrum

- **Energy meter** with the ability to accurately measure voltage, current and power consumption
- **2 x 5A relays** for connection of electrical devices
- **8 x 10A relays with built-in load control meter** for connection of electrical devices

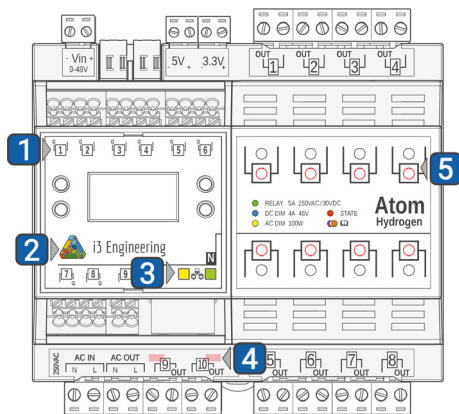
Atom Carbon

- **Energy meter** with the ability to accurately measure voltage, current and power consumption
- **2 x 5A relays** for connection of electrical devices
- **6 x 16A relays** for connection of electrical devices

Atom Argon

- **18 x 5A relays** for connection of electrical devices

LED INDICATIONS



1. Input ports indication
2. Device status indication
3. LAN connection indication
4. Output ports indication
5. Output ports type and status indication

TECHNICAL SPECIFICATIONS



Important: Technical specifications, wiring diagrams, input and output specifications and other technical information can be viewed on our website i3engineering.com

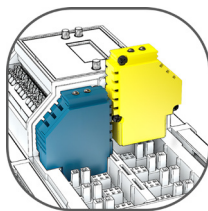
INSTALLATION GUIDE

Security requirements

During installation and operation, observe the general rules of electrical safety regarding the use of electrical appliances, as well as the requirements of regulations on electrical safety. It is strictly forbidden to disassemble the device under voltage!

Atom series controllers require pre-configuration:

1. **For Atom Hydrogen only:** Remove the housing cover that closes the i3-flex connectors to install changeable modules. Insert the modules in place, making sure each module is inserted correctly and securely in the connector. Close the lid.



2. Installation

Install the controller and power supply to the DIN rail. Make sure there are no signs of mechanical damage or condensation. If necessary, install additional switchboard equipment – contactors, circuit breakers, power supplies and other automation devices.

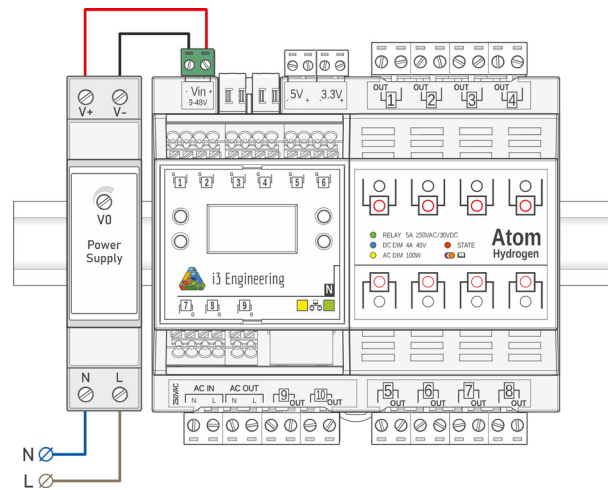
3. Power supply

Connect the power supply to the mains via the circuit breaker. Connect the power supply output to the controller's power connector.

Controller power connectors, sensor power outputs and load control outputs for easy installation are made in the form of removable connectors with screw terminals.

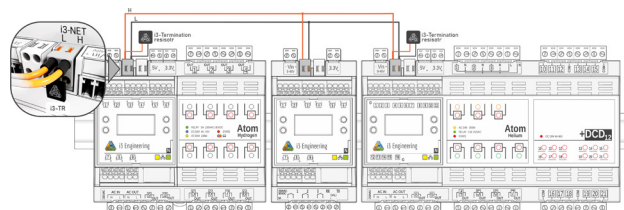


Important: Although the controller has built-in protection against incorrect power connection, and in this situation will not fail, we recommend that you pay attention to the correct polarity when connecting.



4. i3-NET

If your system uses multiple controllers, connect them to a i3-NET network. Install the end terminators included in the equipment kit at the ends of the bus.

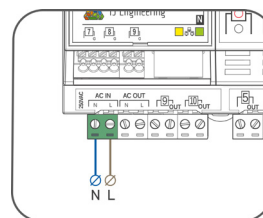


5. Energy meter

If you have an energy meter, connect the phase and neutral conductors with a voltage of 220V to the connectors marked "AC IN".

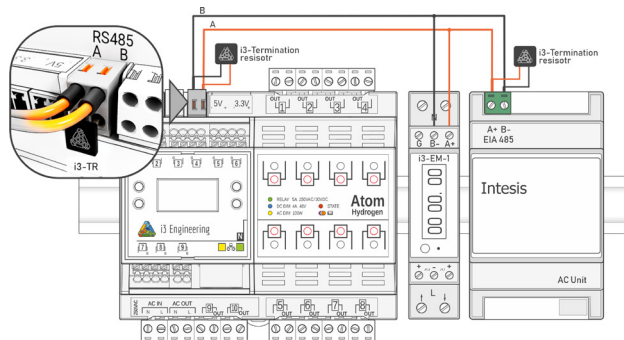


Important: This connection is required for the built-in energy meter and AC dimmers (if available).



6. RS-485

If you have Modbus control devices, connect them to the bus and connect them to the RS-485 connector. Install the end terminators included in the equipment kit at the ends of the bus.



7. Sensors power supply

A 5V and 3.3V controller outputs are provided to power the sensors.



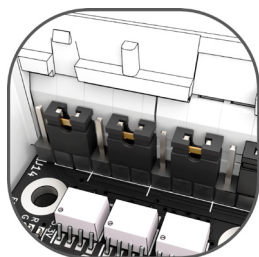
Important: If the system uses sensors or actuators with other operating voltages, use additional power supplies or the power supply that powers the controller. If the system uses several power supplies – connect their “negative” terminals to each other.

8. Input connections

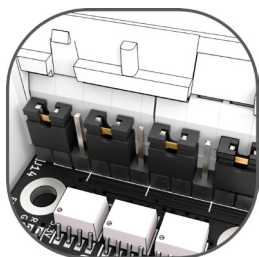
Connect sensors, switches and other devices to the controller inputs. The inputs of the controller use connectors with spring-loaded contacts, which provides convenience and reliability of connection of conductors with a cross section up to 1,5mm².

| Type of input / # of input | Basic version | | | Modification N | |
|---|---------------|-----|-------|----------------|-----|
| | 1-2 | 3-9 | 10-12 | 1-2 | 3-9 |
| Analog (thermistor, photoresistor, etc.) | – | ✓ | ✓ | – | ✓ |
| Digital (motion sensors, light level sensors, switches, buttons, etc.) | ✓ | ✓ | ✓ | ✓ | ✓ |
| Interface (1-Wire sensors) | ✓ | ✓ | ✓ | ✓ | ✓ |

Dangerous interference can occur on long lines when connecting end devices such as switches, so we use additional protection and improved sensitivity of interaction with end devices. We use optocouplers for this. By default, all inputs with jumpers are configured in this mode “Optocoupler”. If you use digital sensors at the inputs of the controller, be sure to turn off this mode.



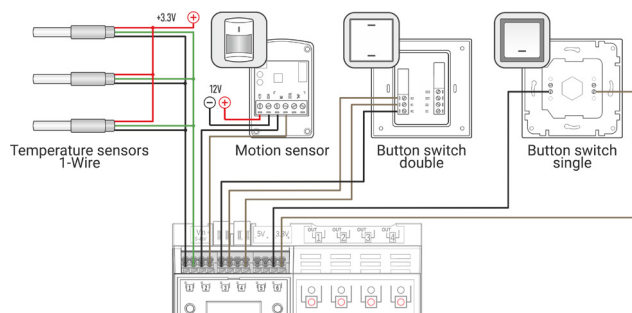
Without optocoupler (IN1-IN3)



With optocoupler (IN1-IN3)



Important: Inputs and “shared” outputs are signed. The common terminals are marked with the letter “G” and are connected to the “minus” power supply of the controller. All common contacts are interconnected, so when connecting switches with a lot of wired cable, it is enough to use only one connection to the “G” terminal.

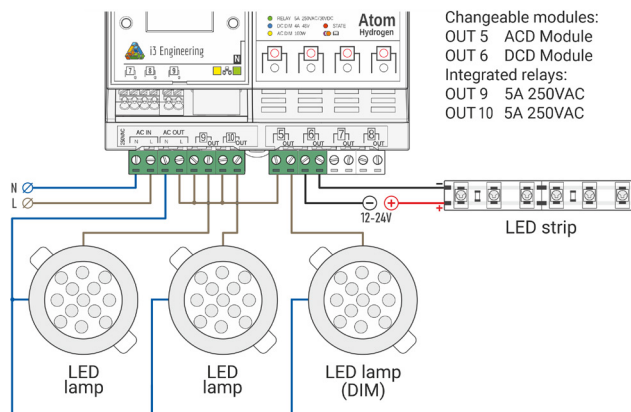


9. Connect outputs

Connect the controller-controlled devices to the outputs. Each output is implemented in the form of a 2-pin connector and is designed to connect conductors with a cross section up to 2.5 mm². One of the contacts

is marked “OUT”, to which the load is connected according to the type of output.

Examples of connecting loads to Atom 6U controllers on the example of Atom Hydrogen N are given below.



Changeable modules:
OUT 5 ACD Module
OUT 6 DCD Module
Integrated relays:
OUT 9 5A 250VAC
OUT 10 5A 250VAC



Important: Pay attention to the connection of DC devices. Negative polarity must be applied to the equipment. Also note that the load is connected directly to the OUT terminal.

10. Network connection (modification N)

The operation of network controllers requires remote access to configure, manage and control their operation. To ensure these capabilities, at least one of the controllers must be able to connect to a wired or wireless network. In the Atom product line, these are the N modification controllers. Don't forget to connect the network cable to the controller or configure access to the home Wi-Fi network



Important: The router must have a DHCP server configured to automatically issue the IP address and network mask.



11. Done. Turn on the power



Important: Check all connections. Make sure that the power supply, inputs and outputs are connected correctly.

i3 HOME APP SETTINGS

1. Download i3 Home App

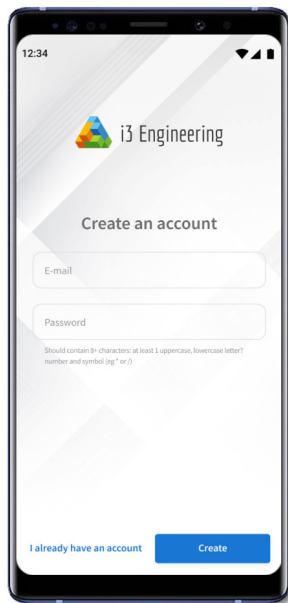


Play Market



App Store

2. Once launched, the application offers to create an account to log in

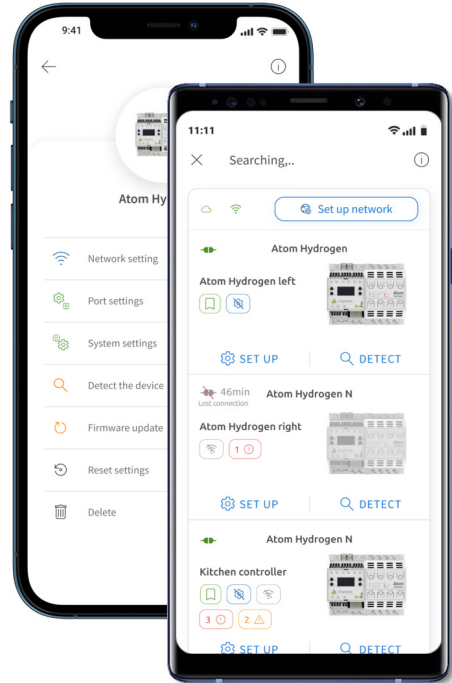


3. Set up a network (WiFi or LAN) and assign devices to the house.

- To do this, you must turn on the device
- Register in the application and click "Go to settings" on the dashboard
- Provide access to geodata in the application (necessary for bluetooth search)
- Then on the device that appears, click "Configure network"
- You will be prompted to create a PIN Code

Important: Remember the PIN Code – without it in the future it will be impossible to reconfigure Wi-Fi connection and connect the device to another home.

- Connect to a network (Wi-Fi or LAN) and provide access to the cloud.
- If you have several identical devices, you can use the "Detect" function, the indicator on the device will start flashing, and you can give it a name so that you can easily find the desired device in the future.

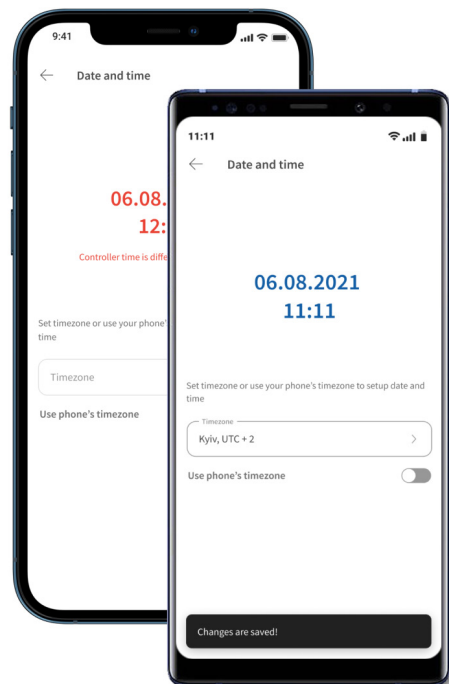


4. Setting the date and time of controllers

Important: You do not need to configure each device on the network, when setting the time zone for one of the devices – it will be set on all the devices in the network.

- In Device Manager, click the Configure button on any network device.
- In the menu, click "Date and time"
- If the time zone is different from the current one (it will be displayed in red), select the desired one from the drop-down list or turn on the option "Use the time zone as on the phone"

Important: The time zone will be saved automatically when pressed and will not change later without manual reconfiguration.

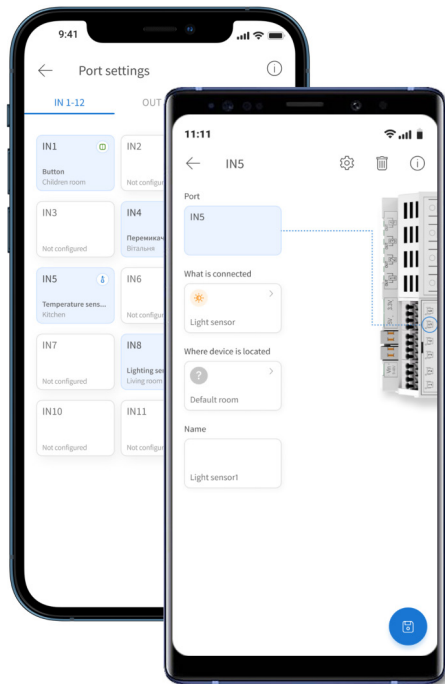


5. Devices settings

You need to specify what is connected to the ports (this will create devices that the user can control, such as a lamp or motion sensor).



Important: The devices have the function of auto-detection of modules or ports, the list of end devices that you can connect will depend on the type of port, for example, you can not install a dimmer lamp if the device has only a relay port type.

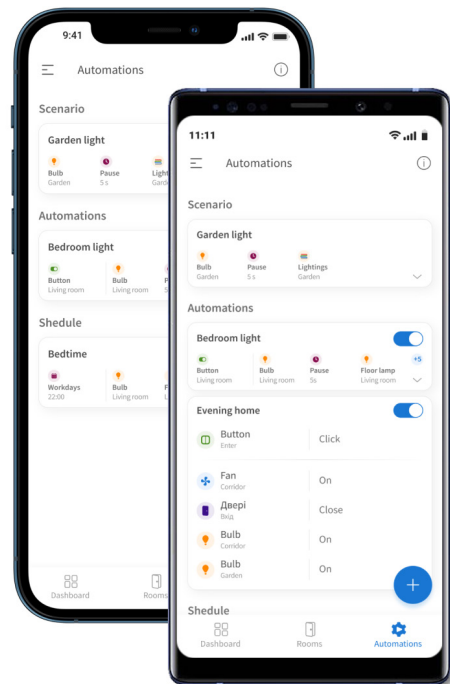


6. Creating automations

Once the devices are configured on the controller, we can control them using a mobile application and a voice assistant. But in order not to look for the phone every time and provide the usual ways of control, you need to configure automation.

To configure automation, go to the main window "Dashboard" and select "Automation" in the bottom panel.

Similarly, you can configure all devices connected to the inputs and outputs of the controller, and set the rules of their interaction, and, for example, different options for pressing one switch, you can configure the response of different devices, running scripts and more. Conversely, the response of one device can be set to different switches (for example, the implementation of a master switch).



LIST OF TYPICAL PROBLEMS AND THEIR SOLUTIONS

LED indicators do not light

- Check the supply voltage on the controller
- Check the polarity of the power supply

The device is turned on but not in the application settings

- Make sure Wi-Fi and bluetooth are turned on on your smartphone or tablet
- Verify that the home network password is specified correctly in the controller settings

Input indicators do not respond to signals from sensors or switches

- Check that the connection is correct
- Check that the connections at the controller and sensor terminals are secure
- Check the login configuration to the type of sensor or switch

Output status indicators are not lit

- Check that the output settings are correct in the controller settings

The output status indicator lights up, the device does not turn on, or responds incorrectly

- Check that the connection is correct and reliable
- Check the device for damage

SUPPORT

If you have any difficulties, please contact the [@i3engineering_support_bot](https://t.me/i3engineering_support_bot) channel

