

Inkslab Series Knob Temperature Control Panel

Instruction Manual



MPHY-4B-BP.1*

Before using this product, please read this manual carefully and keep it properly!

Document Version: C

◆◆ Overview

Inkslab Series Knob Temperature Control Panel (hereinafter referred to as the “product” or “device”) features mechanical buttons and a knob for controlling AC, fresh air and floor heating. The color and brightness of the button indicator light can be customized through HDL Studio to meet different user needs.

Main functions:

- Built-in temperature and humidity sensor: supports sending local temperature and humidity values to the bus, used for inputting scene and automation control conditions
- Built-in proximity sensor for detecting human motion. Once the sensor detects nearby human motion, the touch screen automatically wakes up
- Custom color and brightness of the button indicator light, set through HDL Studio
- Custom brightness of knob light ring, set through HDL Studio
- Separate pages for air conditioning, floor heating and fresh air, each controlling only one device;
- Panel control function: device selection; air conditioning switch/mode/temperature/wind speed setting; floor heating switch/temperature/mode setting; fresh air switch/speed/mode setting.
- Button lock/unlock function
- Support HDL Buspro online upgrade

◆◆ Appearance

Inkslab Series Knob Temperature Control Panel has 4 buttons and 1 knob, and button serial number are as follows:

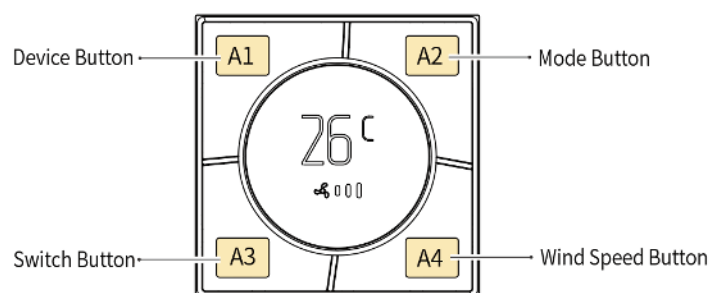


Figure 1

◆◆ Technical Data

Item	Parameter
Rated voltage	24V DC

Rated current	62mA/24V DC
Communication protocol	Buspro
Cable diameter of Buspro terminal	0.6-0.8mm
Working temperature	-5°C~45°C
Working relative humidity	≤90%, non-condensed
Storage temperature	-20°C~60°C
Storage relative humidity	≤93%

◆◆ Specifications

Item	Parameter
Dimensions (W X H X D)	86×86×19.8(mm)
Net weight	Plastic: 128g; Metal: 220g
Housing material	Plastic/Aluminum alloy
Installation	Wall box
IP degree (compliant with EN 60529)	IP20

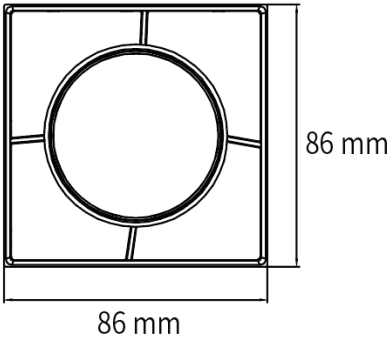


Figure 2

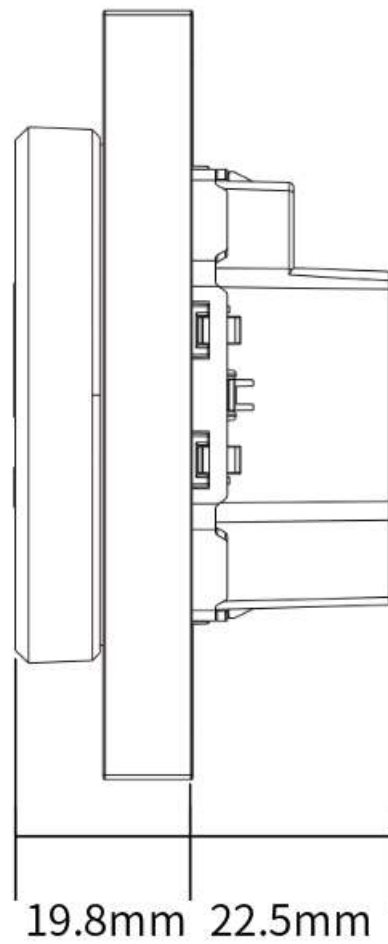
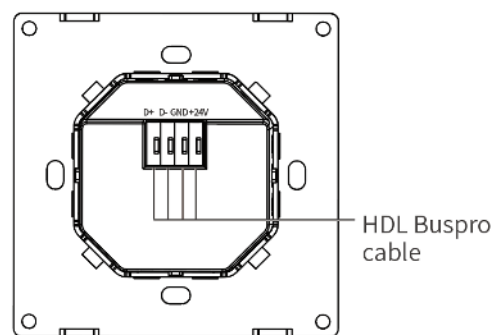


Figure 3



Buspro Panel Power Interface EU

Figure 4

◆◆ Safety Precaution

Please do not privately disassemble or replace any parts of the product. Otherwise, it may cause mechanical fault, electric shock, fire or personal injuries.

Warning:

- The installation and testing for the product must be carried out by HDL Automation Co., Ltd. (hereinafter referred to as HDL) or its appointed service agencies. The electric construction shall comply with local laws and safety regulations.
- HDL will not be responsible for any consequence caused by the inexperienced or faulty installation and wiring methods, which are not in accordance with the instructions contained in this datasheet.
- Please contact HDL after-sales departments or our designated service agencies for your maintenance service. Product failures caused by private disassembly are not subject to the warranty.
- It is not allowed to change the usage scenario or conditions, expand the transmission frequency range, increase the transmission power (including installing additional RF power amplifiers), or change the transmission antenna without authorization.
- No harmful interference shall be caused to other legitimate radio stations, nor shall protection against harmful interference be proposed.
- It should withstand interference from industrial, scientific, and medical (ISM) application equipment that radiates radio frequency energy or other legitimate radio stations.
- If harmful interference occurs to other legitimate radio stations, the use should be immediately stopped and measures should be taken to eliminate the interference before continuing to use.
- Radio observatories, meteorological radar stations, and satellite earth stations (including measurement and control, ranging, and reception) established inside aircraft and in accordance with laws, regulations, relevant national provisions, and standards.
- The use of low-power equipment in electromagnetic environment protection areas such as navigation stations, military and civilian radio stations, airports, etc. shall comply with the regulations of electromagnetic environment protection and relevant industry regulatory authorities.
- It is prohibited to use various model remote controllers within a radius of 5000 meters from the center point of the airport runway.
- When using low-power devices, the environmental conditions are -5 °C~45 °C and the input voltage is AC 100-240V (50/60Hz).

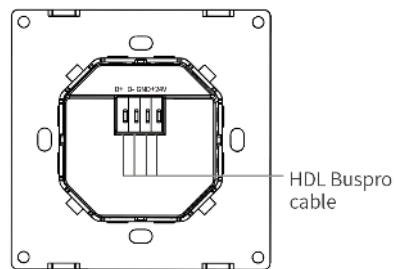
Caution:

- Before performing any installation or disassembly procedures on the device, it is crucial to disconnect the device from all voltage sources. This step is necessary to ensure the safety of the technician and prevent any potential damage to the device.
- It is a **MUST** to install the device with wall box.
- Maximum wireless transmission distance of 30 meters. Due to obstacles that can shorten the wireless transmission distance, to ensure good communication, it is recommended to install this device in an open area and avoid installing it near large metal objects.
- To protect this device and loads, it is recommended that a 5A circuit breaker be connected to each circuit.
- Do not use corrosive liquid to wipe the device body, especially the interface, so to avoid damage to the device.

- Prior to performing maintenance or cleaning on the device, disconnect the device from all voltage sources, to avoid electric leakage and electric shock.

◆◆ Wiring

- For Buspro connection, a hand-in-hand connection is recommended. Please wire according to HDL standards: D+, D-, GND and +24V.



Buspro Panel Power Interface EU

Figure 5

◆◆ Installation

- Warning: Before installation, please cut off the power supply, it is strictly prohibited to operate with electricity.
- Note: Before installation, if the bracket has not been separated from the panel assembly, please refer to the disassembly instructions.

Step 1: Install the wall box (the depth of wall box should not be less than 45mm) on the wall and lead out Buspro cable .

Connect the cables, and pay attention to safe and reliable wiring.

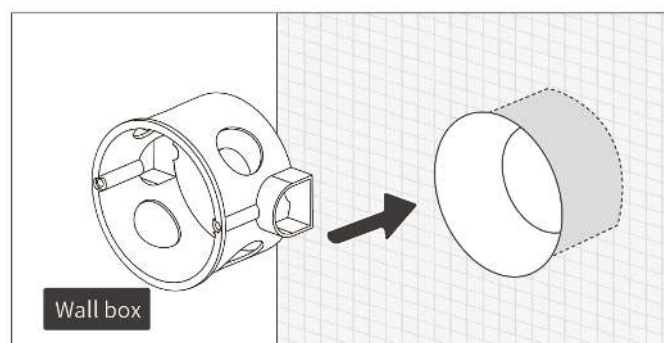


Figure 6

Step 2: Stick the frame onto the wall and align the opening to the wall box.

Step 3: Insert the power base into the frame, aim the screws on both sides of the base at the holes in the wall box, install them together and lock the screws.

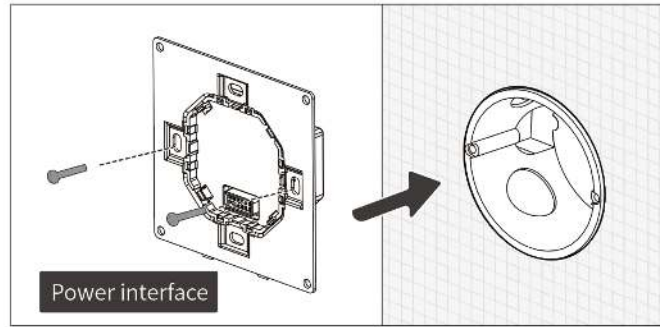


Figure 7

Step 4: Align the panel pins with the base holes, press gently and install on the base.

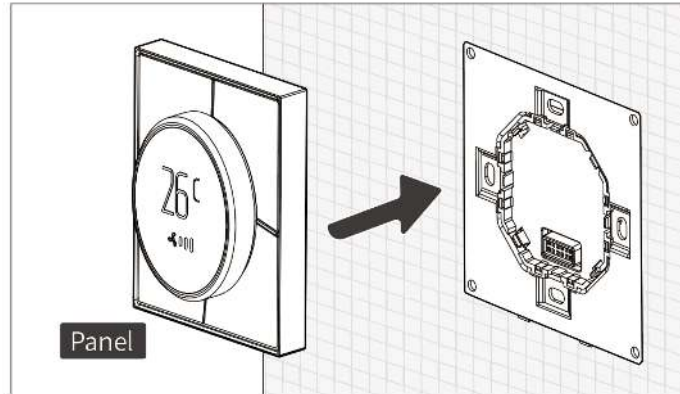


Figure 8

Multi-gang installation:

- Supports horizontal and vertical installation;
- Horizontal installation supports up to 4 rows;
- Vertical installation supports up to 4 columns.

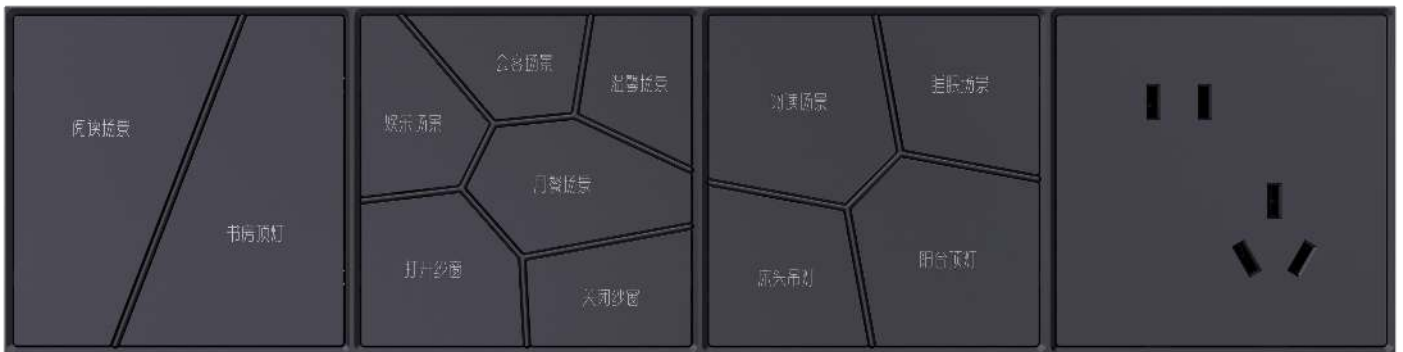


Figure 7



Figure 8

◆◆ Disassembly

Warning: Before performing any disassembly procedures on the device, it is crucial to disconnect the device from all voltage sources. This step is necessary to ensure the safety of the technician and prevent any potential damage to the device.

Step 1. It is recommended to use a screwdriver to pry the panel open from the bottom.

Step 2. To remove the panel and power base, please refer to the section Installation and do it reversely.

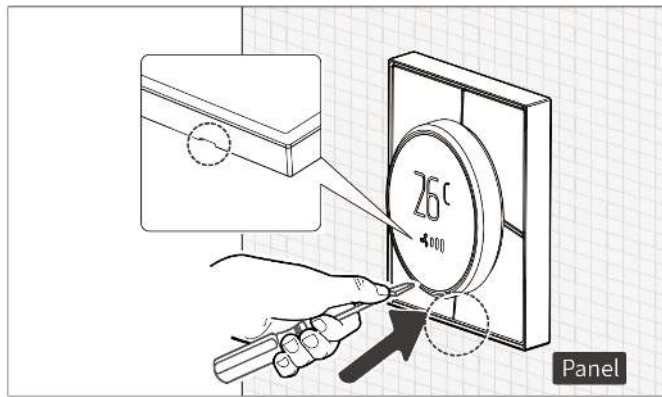


Figure 9

◆◆ Operation

1. Programming mode: Long press any button for 15 seconds, the backlight will turn blue and flash slowly, and the programming mode is on (in programming mode, the subnet ID and device ID can be modified in the commissioning software)

2. Panel lock/unlock:

Manual lock: short press A1 and the A4 at the same time for 5 seconds, the indicator light flashes blue (power off and re-power on, the panel is still locked)

Auto-lock: users can configure the auto-lock function in the HDL Studio commissioning software, set the auto-lock time, and the panel will be locked automatically after a certain period of time.

Panel unlock: press A1 and the last button at the same time for 5 seconds, the panel will be unlocked.

Note: Unlocking must be done manually.

3. Customize the colour of the button indicator: support colour customization through the commissioning software (please refer to the commissioning instructions for details).

4. Proximity sensor function setting: support setting of sensing distance and time of the sensor waking up panel indicator through the commissioning software (please refer to the commissioning instructions for details).

Device	Knob	Function Button A1	Mode Button A2	Switch Button A3	Wind Speed Button A4
Air Conditioning (VRF)	On the homepage, adjust the temperature; On the mode page: switch mode; On the wind speed page: switch wind speed	Short press to switch pages (AC→Floor Heating→Fresh Air)	Short press to switch modes	Turn on/off AC page	Short press to switch wind speed

Floor Heating	On the homepage, adjust the temperature; On the mode page: switch mode	Short press to switch pages (AC→Floor Heating→Fresh Air)	Short press to switch modes	Turn on/off floor heating page	No control
Fresh Air	On the homepage, no control On the wind speed page: switch wind speed	Short press to switch pages (AC→Floor Heating→Fresh Air)	No control	Turn on/off fresh air page	Short press to switch wind speed

Note:

1. No wind speed adjustment In the dehumidification mode of air conditioner
2. No temperature adjustment in air supply mode of air conditioner
3. No wind speed adjustment for floor heating
4. No temperature adjustment for fresh air

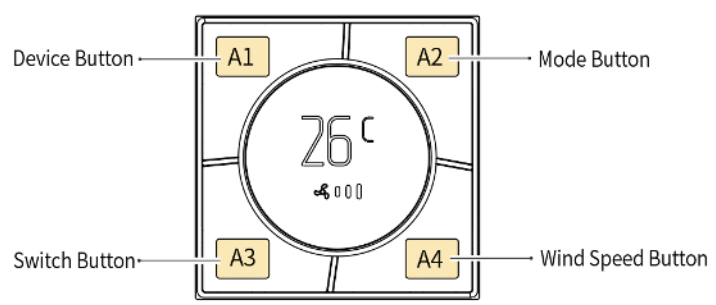


Figure 10

◆◆ Packing List

Panel*1

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Update History:

The form below contains the information of every update. The latest version contains all the updates of all former versions.

Version	Update Information	Date
V1.0	Initial release	February 24, 2025

◆◆ Technical Support

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