Wired Remote Controller
7 Day Programmable Thermostat
Ductless Systems
KSACN1001AAA

Installation Instructions

Fig. 1 — Wired Controller

NOTES: Read the entire instruction manual before installing the wired controller. Images are for illustration purposes only. Actual models may differ slightly.

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SAFETY CONSIDERATIONS

Read these instructions thoroughly and follow all warnings or cautions included in the literature and attached to the wired controller. Consult local building codes and National Electrical Code (NEC) for special requirements.

Recognize safety information. This is the safety-alert symbol ⚠. When you see this symbol on the wired controller and in instructions or manuals, be alert to the potential for personal injury. Understand these signal words: **DANGER**, **WARNING**, and **CAUTION**. These words are used with the safety-alert symbol.

DANGER identifies the most serious hazards which will result in severe personal injury or death. **WARNING** signifies hazards which could result in personal injury or death. **CAUTION** is used to identify unsafe practices which may result in minor personal injury or product and property damage. **NOTE** is used to highlight suggestions which will result in enhanced installation, reliability, or operation.

⚠ CAUTION

Failure to follow this warning could result in personal injury or death. Before beginning any modification or installation of this kit, ensure the main electrical disconnect is in the **OFF** position. Ensure power is disconnected to the fan coil unit. On some systems both the fan coil and the outdoor unit may be on the same disconnect. Tag the disconnect switch with a suitable warning label. There may be more than one to disconnect.

⚠ CAUTION

INSTALLATION

Only the distributor or authorized professionals should install the unit. Installation by unskilled persons may lead to improper installation, electric shock, or fire. Re-installation must be performed by authorized professionals. Non-compliance may lead to electric shock or fire.

NOTES: Save this manual for future reference.

- This manual provides a detailed description of the precautions that the user should be mindful of during operation. Keep this manual, after reading it, for future reference.
- To ensure correct service of the wired controller, read this manual carefully.
- Do not install the wired controller in a location vulnerable to flammable gas leaks. A fire may occur if there is a gas leak around the controller.
- Do not operate with wet hands or allow water to enter the wired controller, otherwise an electric shock may occur.
- The wiring should be a compatible connection cable for the current wired controller. Otherwise, electric leakage or heating may occur and result in a fire.
- Use the specified cables for wiring. Do not allow any external force to be applied to the connection wire terminals. Use this wiring to ensure there is no mechanical damage. Ensure the wire insulation is rated for the temperature it will sustain during operation. Failure to use this wire could result in a fire.

PREPARATION BEFORE INSTALLATION

1. Confirm the following required parts have been supplied.

Table 1 — Parts

NO.	NAME	QTY.	REMARKS
1	Wired controller	1	
2	Installation and owner's manual	1	
3	Screws	3	M3.9X25 (For Mounting on the Wall)
4	Wall plugs	3	For mounting on the wall
5	Screws	2	M4X25 (for mounting on the switch box)
6	Plastic screw bars	2	For fixing on the switch box
7	Battery	1	
8	The connective wires group	1	Optional
9	Screw	1	M4X8 (For mounting the connective wire group

NOTES:
The extension wire should be field supplied.

2. Prepare the following assemblies on site.

Table 2 — Assemblies

NO.	NAME	QTY. (EMBEDDED INTO WALL)	SPECIFICATION (ONLY FOR REFERENCE)	REMARKS
1	Switch box	1		
2	Wiring tube (insulating sleeve and tightening screw)	1		

WIRED CONTROLLER INSTALLATION PRECAUTION

1. This manual provides the wired controller installation method. Refer to the wiring diagram (see Fig. 7 — on page 10) for guidance on wiring the wired controller to the indoor unit.
2. The wired controller works in a low voltage circuit (5-12 VDC). **DO NOT** connect directly to any line voltage. Wiring clearance between the configured tubes should range 11.81-19.69 inches (30-50 cm) or above.
3. The shielded wire of the wired controller must be properly grounded.

NOTE: Upon completion of the wired controller connection, refrain from using any device to test the insulation.

CONTROLLER DIMENSIONS

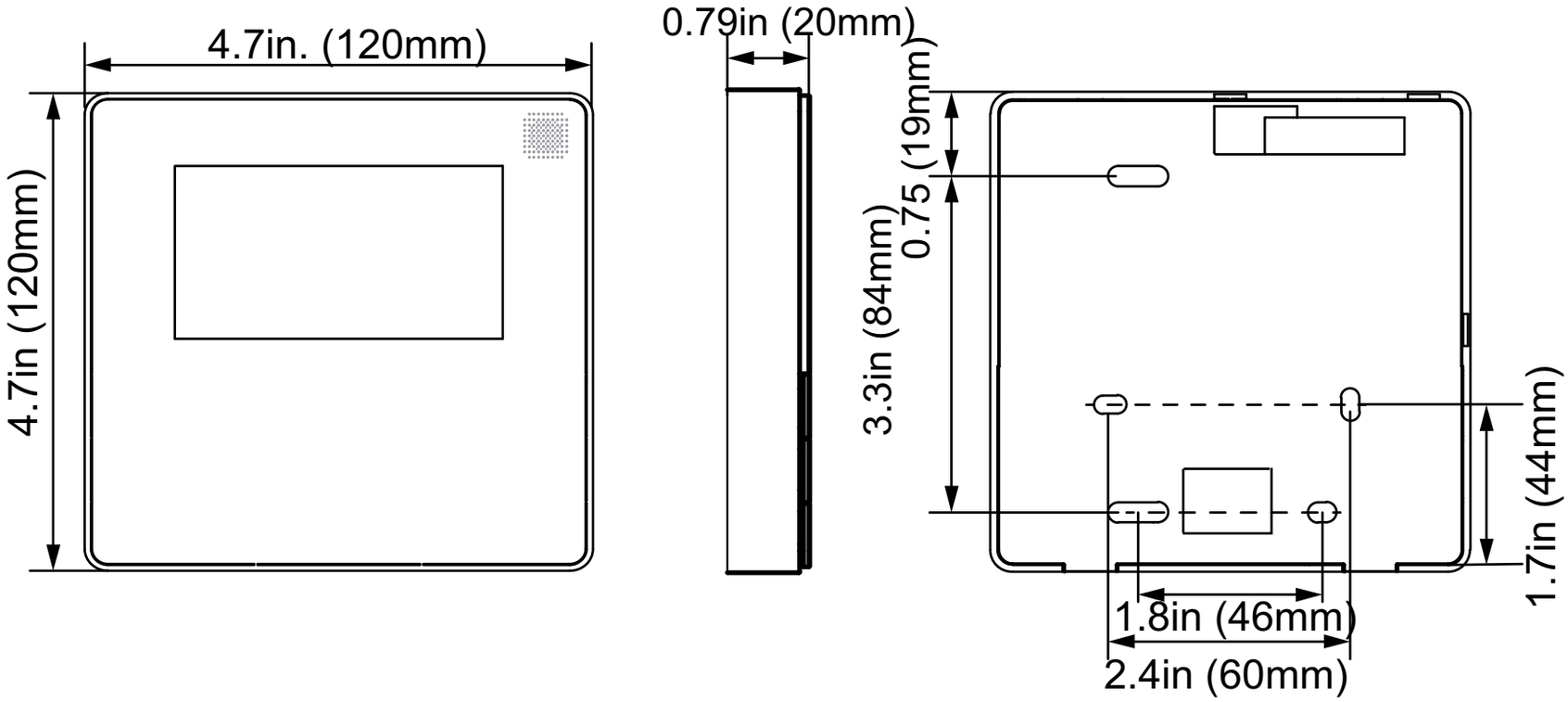

Fig. 2 — Wired remote controller structural dimensions

INSTALLATION

Use the following steps to install the wired controller.

1. Remove the back plate of the wired controller.
2. Insert a flat head screwdriver into the slots in the bottom of the wired controller (2 slots).

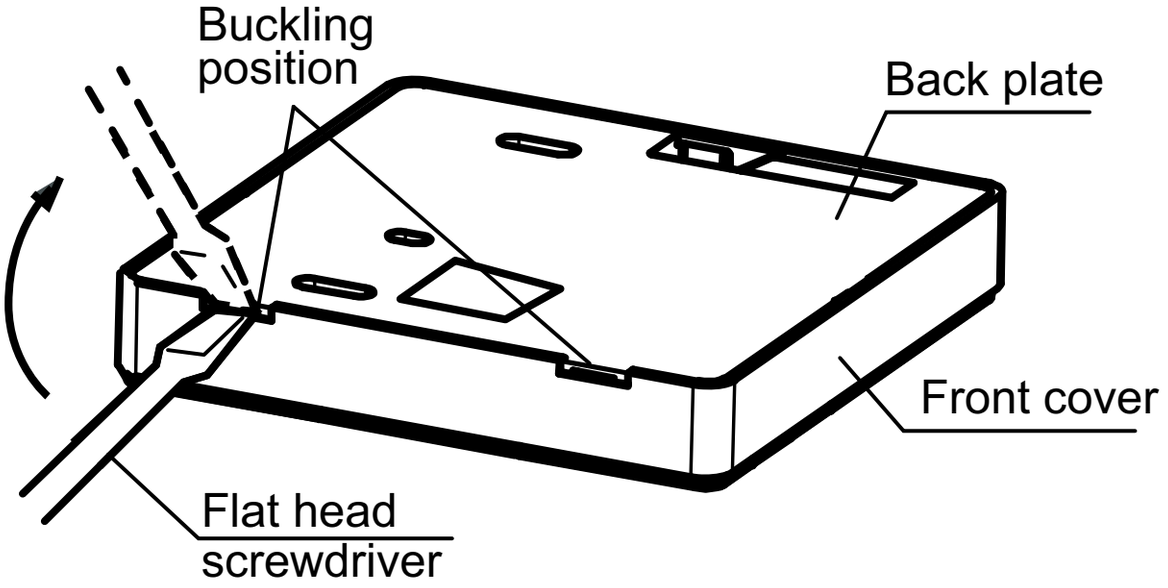

Fig. 3 — Remove the back plate of the wired controller

NOTE: The PCB is mounted to the front cover of the wired controller. Be careful not to damage the board with the screwdriver.

3. For exposed mounting, fasten the back plate on the wall with the 3 screws (M4×20) and plugs.

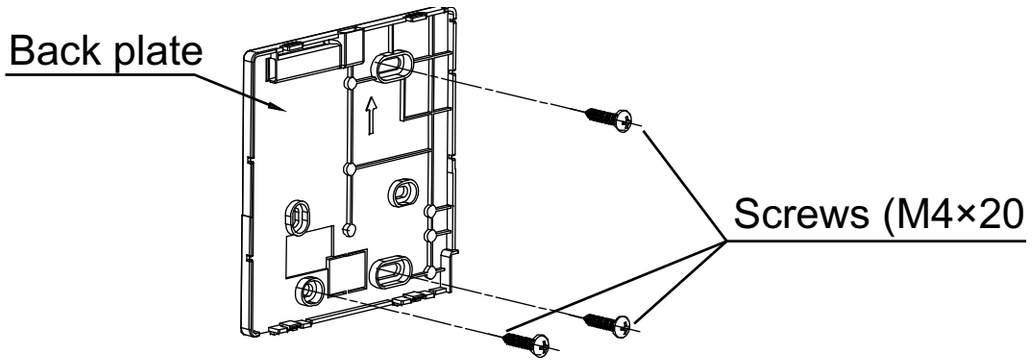

Fig. 4 — Back plate

4. Use two M4X25 screws to install the back plate. Use one M3.9X25 screw to secure to the wall.

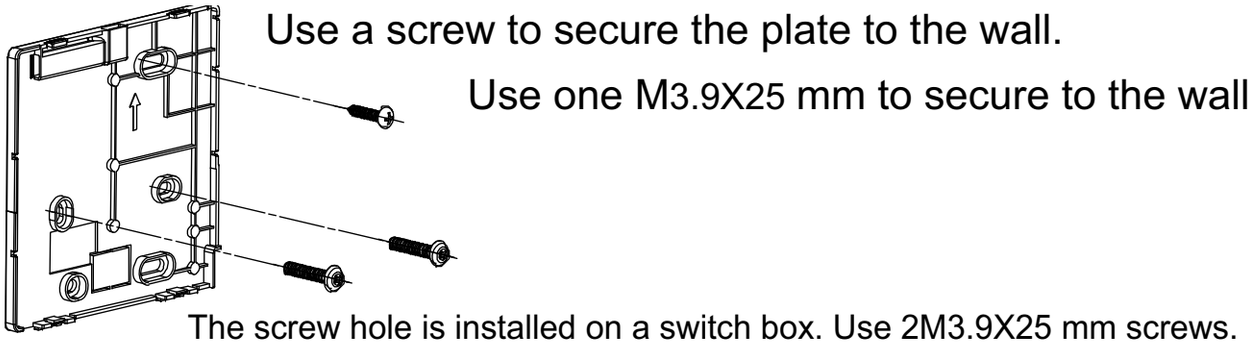

Fig. 5 — Screw to wall

5. Battery Installation:

   a. Place the battery into the installation site and ensure the positive side of the battery is in accordance with the positive side of installation site (see Fig. 6).

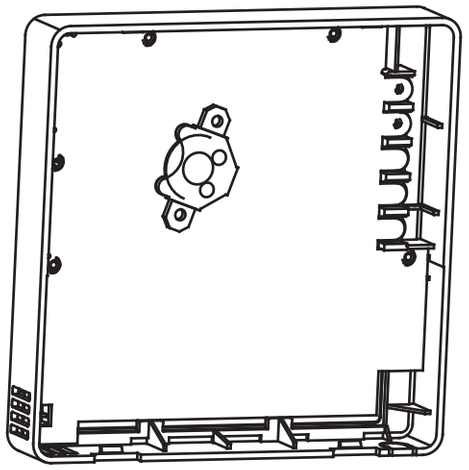

Fig. 6 — Battery Installation

   b. Set the correct time during the first operation. Batteries in the wired controller may fail during a power failure which ensures the time is accurate. When the power restores, if the time displayed is not accurate, the battery must be replaced.

6. Wiring Instructions:

Follow the indoor unit installation manual for proper connection.

Use one of the following options to direct the wiring:

a. Notch the part for the wiring to pass through with nippers.

b. Use the wiring hole on the back of the wired controller.

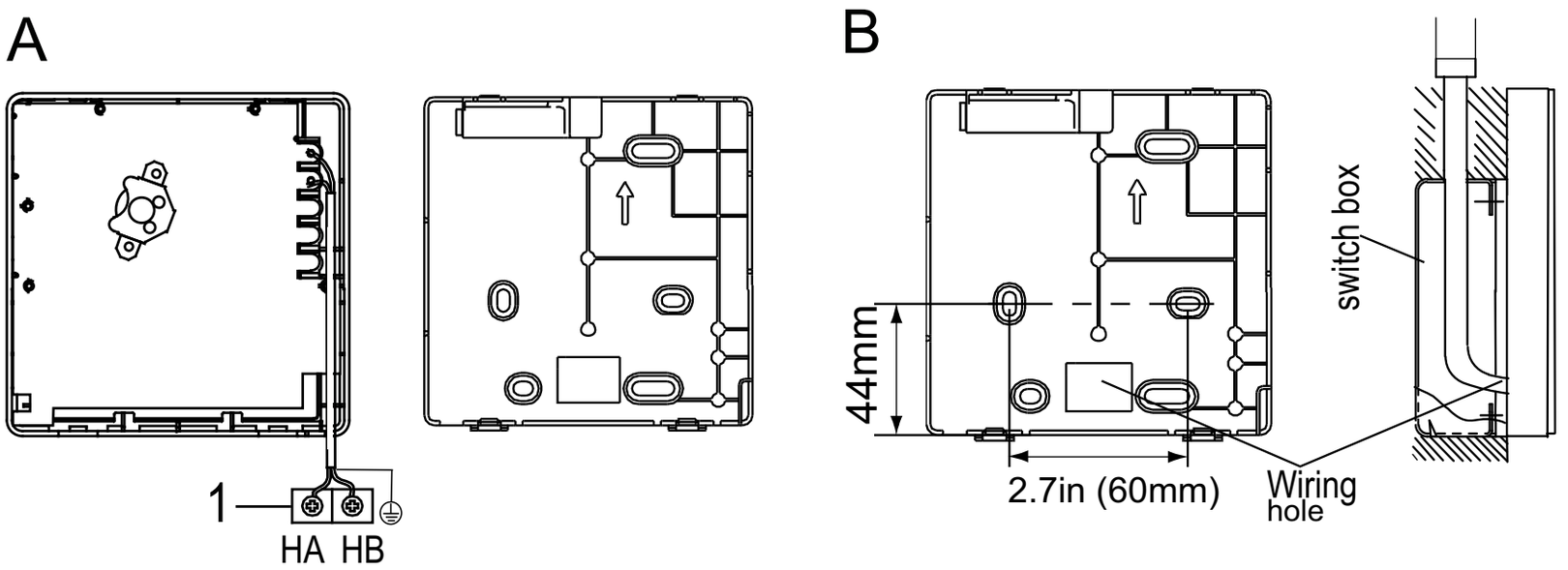

Fig. 7 — Wiring the controller

c. Connect one side of the wire terminals to the remote controller (HA,HB).

d. Connect the other side of the wire terminals to the indoor unit (HA, HB). HA and HB do not have polarity.

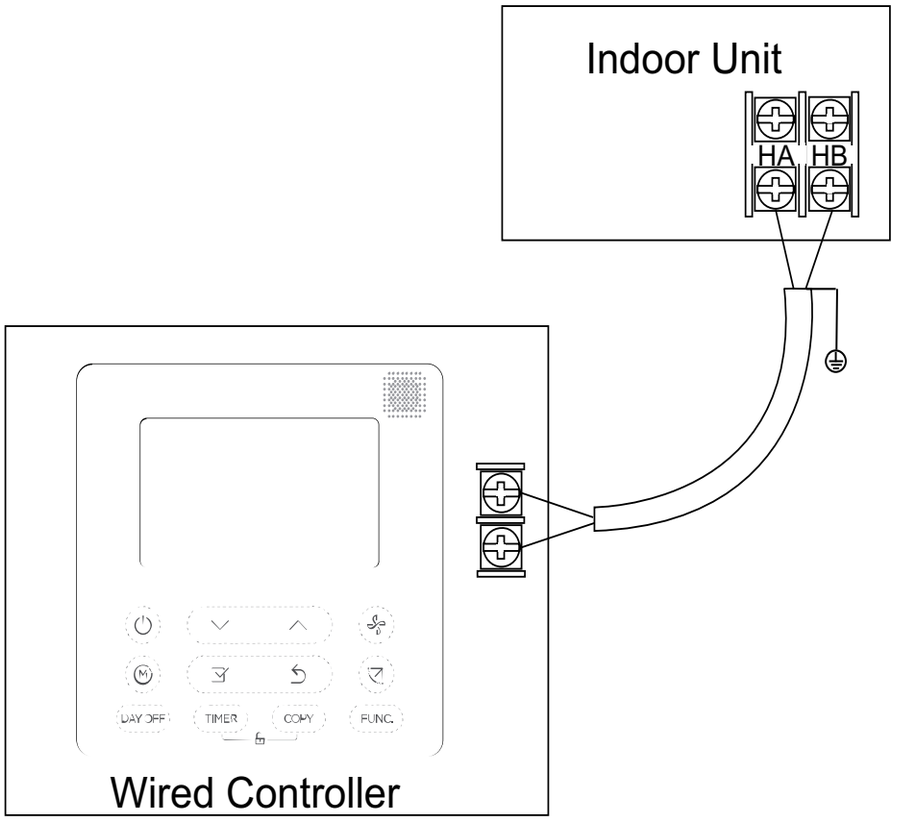

Fig. 8 — Connect the Wired Controller to the Indoor Unit

NOTE: Ensure the length of the connecting cable is long enough for periodic maintenance.

Connection wire between the controller and the IDU is field supplied and should follow the guidelines in Table 6.

Table 3 — Wiring Specifications

WIRING SPECIFICATIONS		
WIRING TYPE	**SIZE**	**LENGTH**
2-Conductor Shielded Cable	18 Gauge Wire	≤66 FT
	16 Gauge Wire	≤164 FT

Installation Method for the Main/Secondary and Multiple Wired Controllers

The main/secondary wired controller can be used to enable two wired controllers to control one unit, and the wired controllers connect to the unit HA and HB ports through the HA and HB port on the controller. There is no polarity between HA and HB (see Fig. 9).

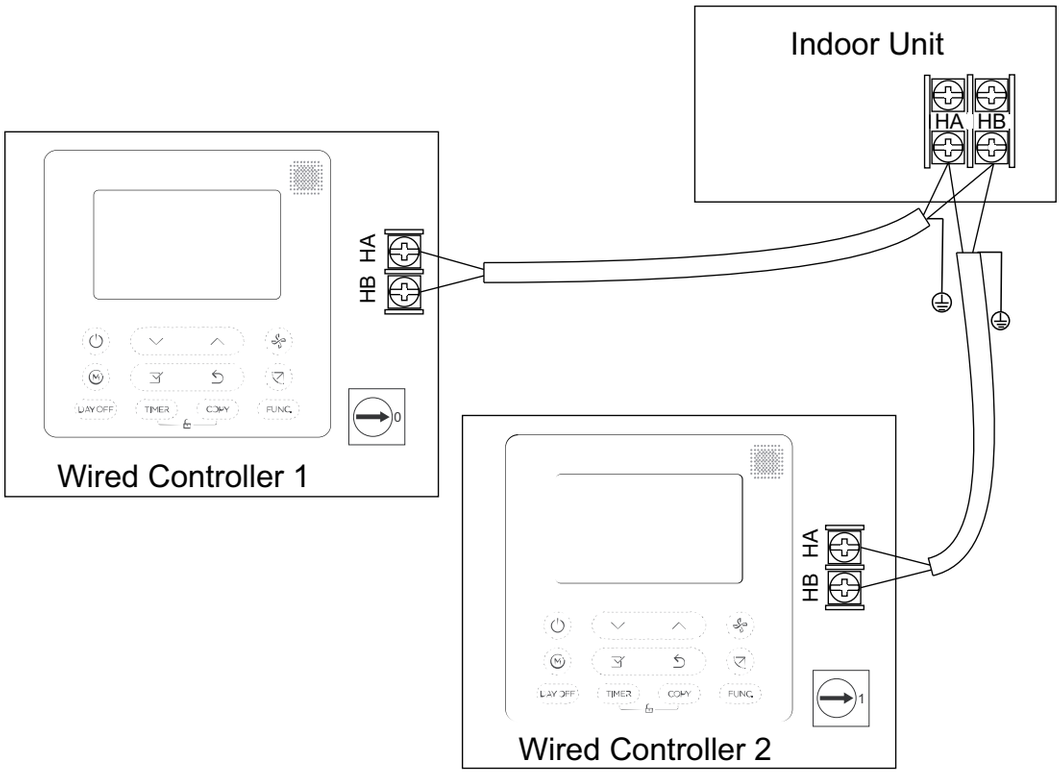

Fig. 9 — Main and Secondary Installation Method

For some units, one wired controller can support multiple units (a maximum of 16 units). In this case, the wired controller and unit need to be connected to the HA and HB ports at the same time. In the group control, no error appears on the wired controller (see Fig. 10).

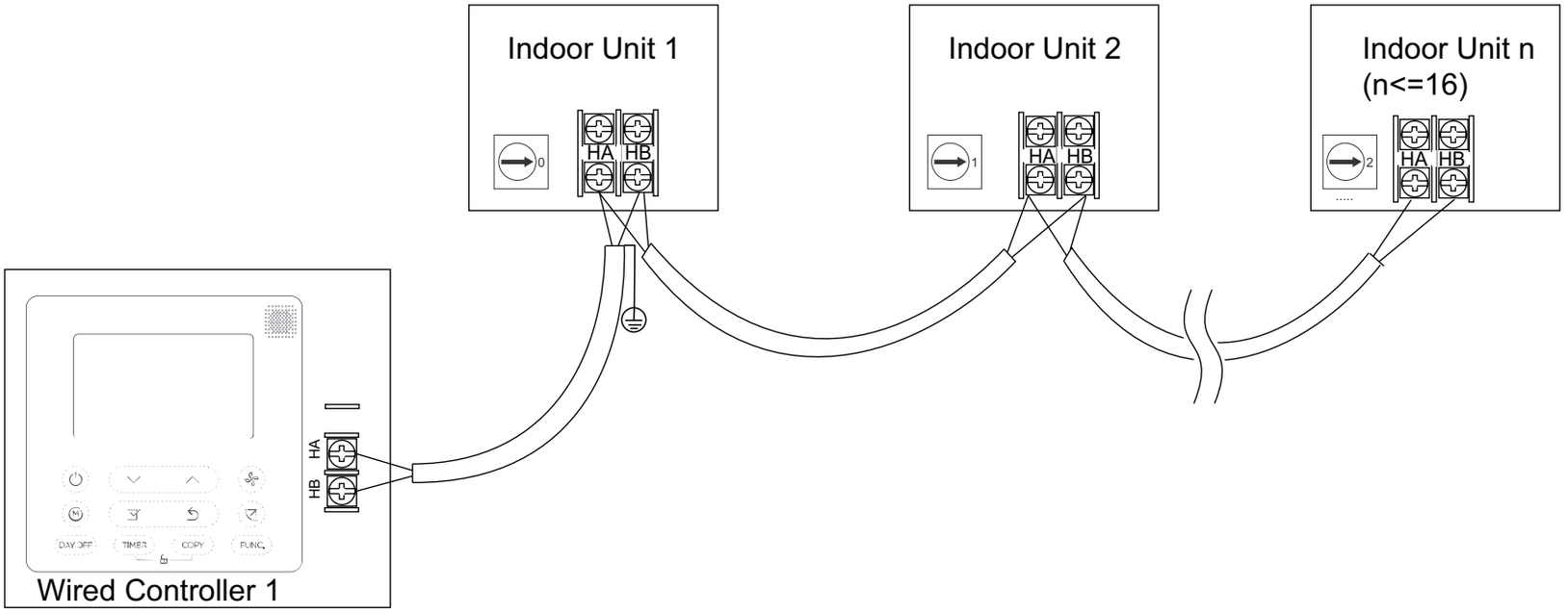

Fig. 10 — Multiple Installation Method

NOTE: DO NOT allow water to enter the wired control. Use a trap and putty to seal the wires (see Fig. 11).

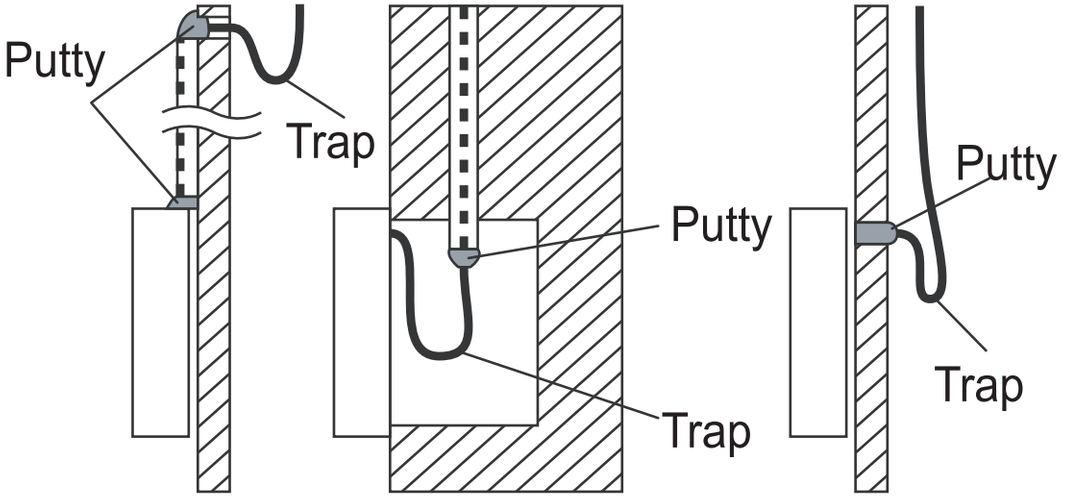

Fig. 11 — Seal the wires

Reattaching the Front Cover of the Wired Controller

While adjusting and mounting the front cover, avoid clamping the wiring during installation (see Fig 12).

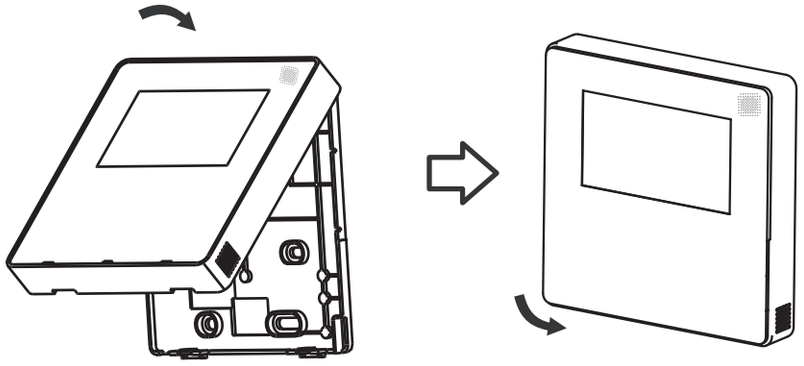

Fig. 12 — Reattaching the Front Cover of the Wired Controller

TROUBLESHOOTING

For ease of service, the systems are equipped with diagnostic code display LEDs on the Wired Remote Controller, indoor and outdoor units. The indoor diagnostic display is a combination of flashing LEDs on the display panel or the front of the unit. Some indoor units display error codes specifying failure modes in the outdoor units. If possible, always check the diagnostic codes displayed on the indoor unit first. The diagnostic codes displayed in the indoor and wired remote controller are listed in Table 4.

Table 4 — Troubleshooting

DISPLAY ON IDU	INDOOR UNIT ERROR CODE DEFINITION
EH00	Indoor EEPROM malfunction
EL01	Communication malfunction between the indoor and outdoor units
EH03	Indoor fan speed malfunction
EC51	Outdoor EEPROM malfunction
EC52	Condenser coil temperature sensor (T3) malfunction
EC53	Outdoor ambient temperature sensor (T4) malfunction
EC54	Outdoor unit exhaust temperature sensor error
EH60	Indoor Room Temperature Sensor T1 Error
EH61	Indoor Evaporator coil Temperature Sensor T2 Error
EH62	Air inlet temperature sensor Error
EC07	Outdoor DC fan speed malfunction
EH0b	Indoor PCB and display board communication error
EL0C	Refrigerant leakage detection
EH0E	Indoor water level warning Error
FL09	New and old platform match malfunction
PC00	Inverter module (IPM) protection
PC01	Over high voltage or over low voltage protection
PC02	High temperature protection of compressor top/ IPM Temperature protection
PC04	Inverter compressor drive Error
PC03	Low pressure protection
PC0L	Low temperature protection of outdoor unit
EH63	Communication error between the wire controller and the indoor unit
----	Indoor units mode conflict
NOTE: The digital tube shows that DF / FC is in a normal operation state, not fault or protection.	

SPECIFICATION

Table 5 — Specification

INPUT	KSACN1001AAA: DC 12V
Ambient temperature	23~110F (-5~43C)
Ambient humidity	RH40%~RH90%

Table 6 — Wiring Specifications

WIRING TYPE	SIZE	MAXIMUM LENGTH
Shielded Vinyl Cord or Cable	0.5mm ^{2}	≤ 66 in (20m)
	0.75 - 1.25mm^2	≤ 164 in (50m)

TECHNICAL INDICATIONS AND REQUIREMENT

EMC and EMI comply with the CE certification requirements.