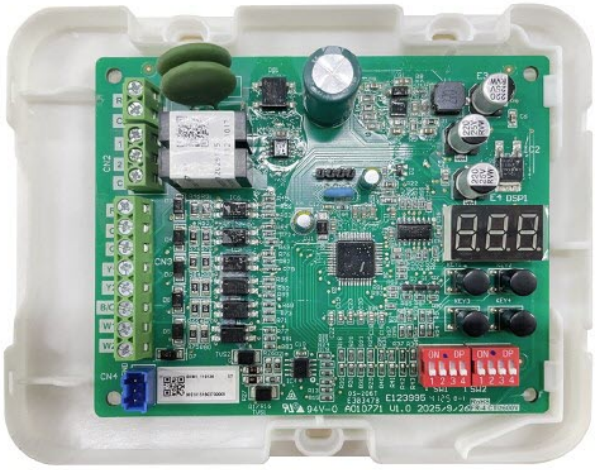
Installer’s Guide

24V Ductless Auxiliary Control Adapter



Note: *Graphics in this document are for representation only. Actual model may differ in appearance.*

ZADPDUCT24V

⚠ SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.

March 2026

DLR-SVN008A-EN

Introduction

Read this manual thoroughly before operating or servicing this unit.

This document is customer property and is to remain with this unit. Return to the service information pack upon completion of work.

Warnings, Cautions, and Notices

Safety advisories appear throughout this manual as required. Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

The three types of advisories are defined as follows:

⚠ WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠ CAUTION	Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.
NOTICE	Indicates a situation that could result in equipment or property-damage only accidents.

Important Environmental Concerns

Scientific research has shown that certain man-made chemicals can affect the earth's naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. Trane advocates the responsible handling of all refrigerants.

Important Responsible Refrigerant Practices

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified according to local rules. For the USA, the Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

⚠ WARNING

Proper Field Wiring and Grounding Required!

Failure to follow code could result in death or serious injury.

All field wiring MUST be performed by qualified personnel. Improperly installed and grounded field wiring poses FIRE and ELECTROCUTION hazards. To avoid these hazards, you MUST follow requirements for field wiring installation and grounding as described in NEC and your local/state/national electrical codes.

⚠ WARNING

Personal Protective Equipment (PPE) Required!

Failure to wear proper PPE for the job being undertaken could result in death or serious injury.

Technicians, in order to protect themselves from potential electrical, mechanical, and chemical hazards, MUST follow precautions in this manual and on the tags, stickers, and labels, as well as the instructions below:

- **Before installing/servicing this unit, technicians MUST put on all PPE required for the work being undertaken (Examples; cut resistant gloves/ sleeves, butyl gloves, safety glasses, hard hat/ bump cap, fall protection, electrical PPE and arc flash clothing). ALWAYS refer to appropriate Safety Data Sheets (SDS) and OSHA guidelines for proper PPE.**
- **When working with or around hazardous chemicals, ALWAYS refer to the appropriate SDS and OSHA/GHS (Global Harmonized System of Classification and Labelling of Chemicals) guidelines for information on allowable personal exposure levels, proper respiratory protection and handling instructions.**
- **If there is a risk of energized electrical contact, arc, or flash, technicians MUST put on all PPE in accordance with OSHA, NFPA 70E, or other country-specific requirements for arc flash protection, PRIOR to servicing the unit. NEVER PERFORM ANY SWITCHING, DISCONNECTING, OR VOLTAGE TESTING WITHOUT PROPER ELECTRICAL PPE AND ARC FLASH CLOTHING. ENSURE ELECTRICAL METERS AND EQUIPMENT ARE PROPERLY RATED FOR INTENDED VOLTAGE.**

⚠ WARNING

Follow EHS Policies!

Failure to follow instructions below could result in death or serious injury.

- **All Trane personnel must follow the company's Environmental, Health and Safety (EHS) policies when performing work such as hot work, electrical, fall protection, lockout/tagout, refrigerant handling, etc. Where local regulations are more stringent than these policies, those regulations supersede these policies.**
- **Non-Trane personnel should always follow local regulations.**

⚠ WARNING

Cancer and Reproductive Harm!

This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

⚠ WARNING

Safety Hazard!

Failure to follow instructions below could result in death or serious injury or property damage.

This unit is not to be used by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety.

Do not allow children to play or climb on the unit or to clean or maintain the unit without supervision.

⚠ WARNING

Risk of Fire or Explosion!

Failure to follow instructions below could cause a fire which could result in death, serious injury, and equipment damage.

- **Do not install the unit in a corrosive, inflammable, or explosive environment to avoid impact to normal operations or shortened service life of the unit.**
- **Do not install the appliance near a heat source or water.**
- **Do not install the controller in a location with heavy oil, vapor, or sulfurated gas.**
- **Install indoors and avoid direct sunlight, rain, and snow.**
- **Install in a location without electromagnetic interference or dust.**

NOTICE

Equipment Damage!

Failure to follow instructions below could result in equipment or property damage.

The unit is designed for operation with 24V power supply. Only use an approved power supply.

NOTICE

Equipment Damage!

Failure to follow instructions below could result in equipment damage or communication failure.

Verify the communication wires are connected to the correct ports.

Copyright

Trademark

Table of Contents

General Information

The 24V adapter allows a third-party 24V HVAC thermostat (such as Nest) to control split-type units, cassette units, duct-type units, and floor and ceiling units. The device type should be set as "24 Volt Adapter" or select a different interface type according to the output signal type of the purchased 24V HVAC thermostat.

Notes:

- *The signal of 24VAC HVAC thermostat is the control command for controlling compressor, 4-way valve, indoor fan, and other loads. The type of 4-way valve also needs to be set. Refer to Parameter Settings for details.*
- *The signal of 24V HVAC thermostat is the control command for setting cooling, heating, fan and other operation modes.*

Figure 1. 24V adapter

Interface Overview

Figure 2. Interface main board

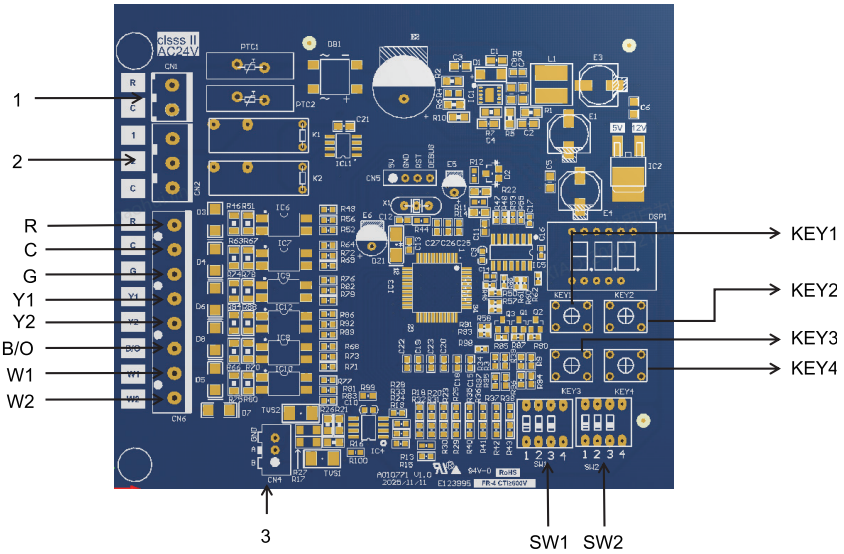


Table 1. 24V control terminal block

Interface	Function	Description
R	24V	24V Power Supply
C	Common	Common Terminal (COM)
G	Fan	Fan Control (Thermostat Fan Signal Input)
Y1	Low stage	Compressor Low Stage (Thermostat Speed Signal Input)
Y2	High stage	Compressor High Stage (Thermostat Speed Signal Input)
O/B	Cooling/Heating four-way valve	Reversing Valve (Thermostat Mode Signal Input)

Table 1. 24V control terminal block (continued)

Interface	Function	Description
W1	Electric heating 1	Aux Heat 1 (Thermostat Aux Heating Signal Input)
W2	Electric heating 2	Aux Heat 2 (Thermostat Aux Heating Signal Input)

DIP Switch Settings

Table 2. DIP switch SW1 function description

Position	Setting Value[a]	Description
SW1-1	0	O/B terminal energized = Cooling mode active
	1	O/B terminal energized = Heating mode active
SW1-2	0	Auxiliary heat source controlled by W1/W2 thermostat signals
	1	Auxiliary heat activated by outdoor ambient temperature
SW1-3	0	SW1-2=1: Maintains compressor heating when auxiliary heat is ON
	1	SW1-2=0: Stops compressor heating when auxiliary heat is ON
SW1-4	0	Thermostat mode: 24V control circuit
	1	Non-thermostat mode: Direct digital control

[a] Numeric side (down position) = 0 - OFF, Alphabetic side (up position) = 1 - ON

Table 3. DIP switch SW2 function description

Position	Setting Value[a]	Description
SW2-1	0	Thermostat high-speed mode (Y2 signal) corresponds to indoor unit turbo mode
	1	Thermostat high-speed mode (Y2 signal) corresponds to indoor unit high fan speed
SW2-2	0	Thermostat low-speed mode (Y1 signal) corresponds to indoor unit medium fan speed
	1	Thermostat low-speed mode (Y1 signal) corresponds to indoor unit low fan speed
SW2-3	0	Reserved
	1	Reserved
SW2-4	0	Reserved
	1	Reserved

Note: The DIP switch status is only detected once during the main controller power-on initialization and will not be monitored thereafter.

[a] Numeric side (down position) = 0 - OFF, Alphabetic side (up position) = 1 - ON

Buttons

Table 4. Button descriptions

No.	Buttons name
KEY1	Select button
KEY2	Confirm button
KEY3	Increase button
KEY4	Decrease button

Note: *After confirming a setting, the user can return to the menu to check the status.*

Display Operation

7–Segmented Display

In thermostat mode:

- **Normal Operation**: Displays the current operation mode and set temperature (for example, C16 = Cooling mode, set to 16°C).
- **Standby Status**: Displays —.
- **Fault Condition**: Shows the error code.

In Non-Thermostat Mode:

- **Normal Operation**: Displays the external ambient temperature when a third-party heat source is active (for example, -15 = -15°C).
- **Standby Status**: Displays —.
- **Fault Condition**: Shows the error code.

Functions

Thermostat Signal Calls

Table 5. Thermostat signal calls

G Terminal	Y1/Y2 Terminals	DIP SW1-1	O/B Terminal	Mode Identification
No 24V signal	—	—	—	Power Off
24V present	Both inactive	—	—	Fan Only
24V present	Either active	0	24V present	Cooling
24V present	Either active	0	No 24V signal	Heating
24V present	Either active	1	24V present	Heating
24V present	Either active	1	No 24V signal	Cooling

Note: When both SW1-2 and SW1-3 are set to "1", if a third-party heat source is activated during heating mode, the air conditioner will operate in fan-only mode.

Fan Setting

Table 6. Fan settings

G Terminal	Y1 Terminal	Y2 Terminal	Fan Speed Mode
No 24V signal	—	—	Fan Off
24V present	No 24V signal	No 24V signal	Low Speed
24V present	24V present	No 24V signal	Low Speed
24V present	24V present	24V present	High Speed

Function Setting

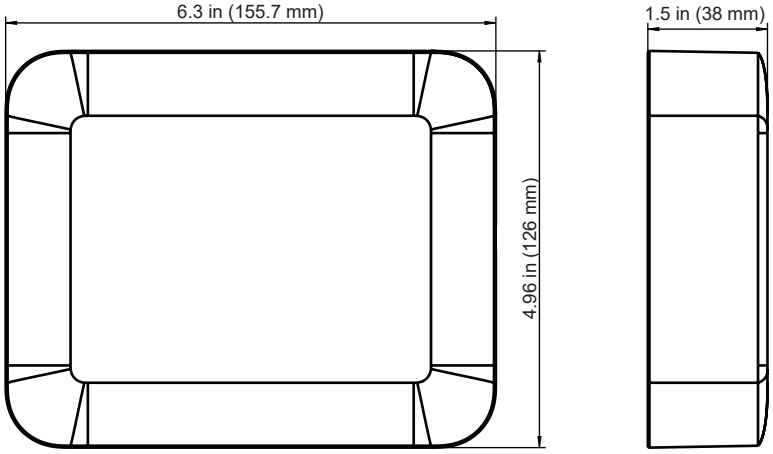
1. If no button is pressed within 10 seconds, the system will automatically exit function setting mode.
2. Press KEY3 shortly to scroll up or KEY4 to scroll down through function list cyclically, with the function number displayed steadily on the display.
3. After selecting a function number, long press KEY1 for three seconds to enter function setting mode, where the function value will blink on the display.
4. Adjust function value by pressing KEY3 to increase or KEY4 to decrease, within the range specified in the table below.
5. Press KEY2 to confirm and exit current function setting after adjustment.

Table 7. Function settings

No.	Function	Description
01	External Heat Source Restart Delay	Delay time before restarting external heat source after shutdown. Default: 10min, Range: 5min~15min (depends on auxiliary control signal)
02	External Heat Source Activation Temp	When SW1-2=1, external heat source can only activate when outdoor temp is below this value. Default: 14°F, Range: 1°F~50°F
03	Outdoor Ambient Temperature	Onboard outdoor unit temperature non-adjustable (read-only)

Dimensions

Figure 3. Product dimensions

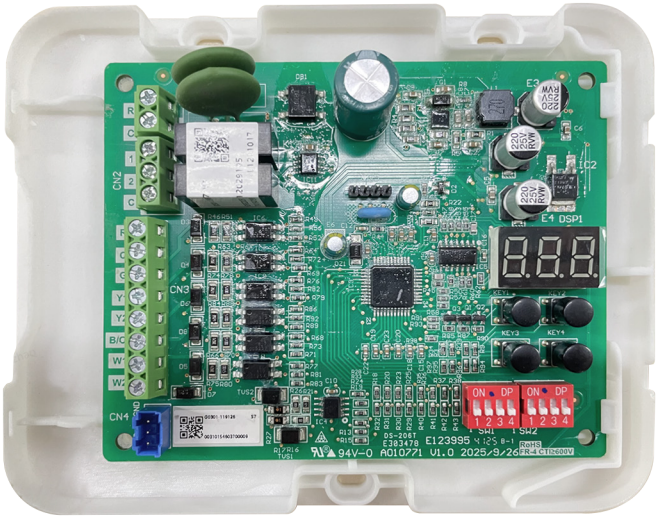


Installation Instructions

1. Insert a prying tool into the slot of the adapter plate and lift off the upper section. Verify that the PCB mounted on the back plate is secure.
2. Connect all wiring in accordance with the installation requirements and the wiring diagram, and confirm all connections are properly tightened.
3. Fix the back plate using three screws□ST4.2×25□and plastic anchors. Confirm the plate is firmly mounted and does not shift.
4. After confirming the wiring is correct, arrange the cables and secure them with a wire clip.
5. Route the cables through the cable exit of the adapter plate, and then cover the upper section of the adapter plate back into place.

Note: *If the wires are loose when securing them with a wire clip, fold the wires one or more times before fixing it with a wire clip.*

Figure 4. Product image

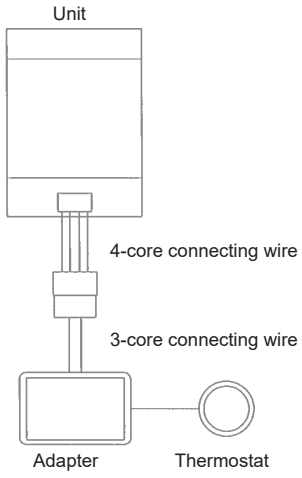


Adapter Wiring

Connecting Adapter and Indoor Unit

1. Wire CN4 from the 24V Adapter to CN4 on the indoor unit.
2. Wire communication with the indoor unit's network, as shown in .

Figure 5. Indoor unit wiring



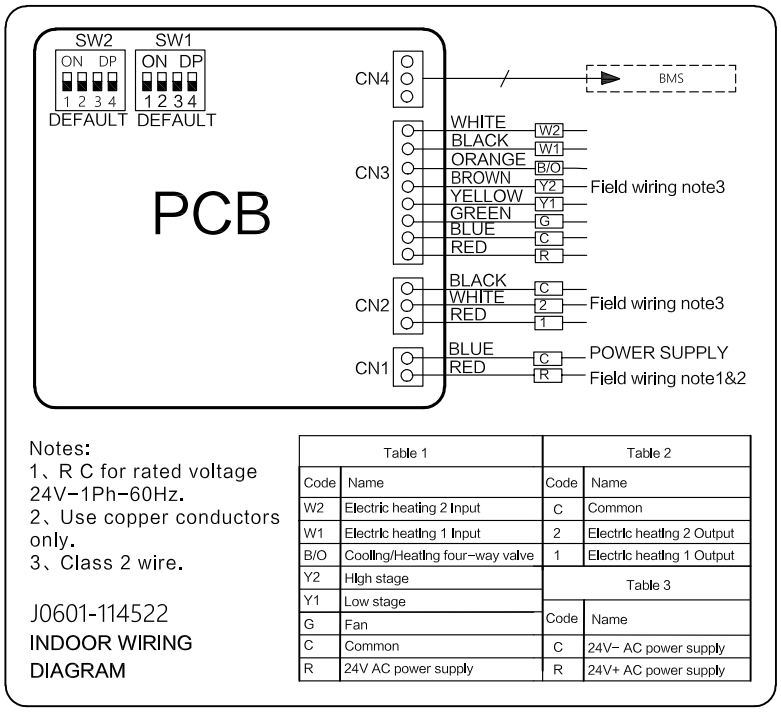
Notes:

- *One adapter controls one indoor unit.*
- *See the indoor unit PCB for proper wiring connections.*

Connecting Adapter and Thermostat

When the output signal of thermostat is the control command of load, such as compressor, 4-way valve, indoor fan, the connection method between the 24 volt adapter and a third-party 24VAC HVAC thermostat is shown as below:

Figure 6. Connecting the 24V adapter to a third-party thermostat



Notes:
1、R C for rated voltage 24V~1Ph~60Hz.
2、Use copper conductors only.
3、Class 2 wire.

J0601-114522
INDOOR WIRING DIAGRAM

Table 1	
Code	Name
W2	Electric heating 2 Input
W1	Electric heating 1 Input
B/O	Cooling/Heating four-way valve
Y2	High stage
Y1	Low stage
G	Fan
C	Common
R	24V AC power supply

Table 2	
Code	Name
C	Common
2	Electric heating 2 Output
1	Electric heating 1 Output

Table 3	
Code	Name
C	24V~ AC power supply
R	24V+ AC power supply

Notes:

- *The 4–way valve interface of the 24V HVAC thermostat may only have Type “O” or “B” and it can also connect O/B to the adapter.*
- *CN2 Terminals are limited to 24V and 1 Amp.*

Troubleshooting

When there is an error during operation, the 24V adapter display will display an error code. If multiple errors occur at the same time, error codes will display consecutively.

Important: *When an error occurs, turn of the unit and seek service from a professional.*

Table 8. Error codes

Fault code	Fault content	Definition of fault and protection
Eb	Communication failure	Whether the communication wiring between the controller and the indoor unit is carried out correctly according to the guidance of the wiring diagram.
dc	Abnormality of 24V signal	Whether the communication wiring between the controller and the thermostat is correct according to the guidance of the wiring diagram, or whether the DIP switch of the controller matches that of the thermostat.

Notes

About Trane and American Standard Heating and Air Conditioning

Trane and American Standard create comfortable, energy efficient indoor environments for residential applications. For more information, please visit www.trane.com or www.americanstandardair.com.

DLR-SVN008A-EN 21 Mar 2026
Supersedes (New)