

AcmelLink_B27 | Compact HVAC Gateway

English product manual | ACMELEC | 15 September 2026



One indoor unit. One compact gateway. Concealed installation and Bluetooth brand-adaptation upgrades through a WeChat mini program.

This English edition reorganizes the supplied V1.4 technical manual (18 May 2022), with the product model and one-to-one allocation confirmed by ACMELEC. Match the supplied hardware and firmware to the actual indoor unit before installation.

Section	Content
1	Product overview and hardware
2	Interfaces, button and indicators
3	Installation and brand connection matrix
4	Original controller coexistence and wiring precautions
5	Bluetooth control, diagnostics and brand upgrade
6	Wired and wireless networking

1. Product overview and hardware

The gateway connects a compatible air-conditioning indoor unit to a selected smart-home interface or third-party control panel. It can coexist with an original wired controller only when that system supports the required primary/secondary controller arrangement.

The technical manual describes RS485, Zigbee, BLE and WiFi interface options, and integration configurations for Xiaomi, Huawei, Alibaba and Tuya. Confirm the enabled interface, platform, hub and firmware for the ordered version. These options are not a statement that all protocols operate simultaneously.

Wired or wireless networking can coordinate multiple gateways. Built-in Bluetooth supports local control, parameter retrieval, fault-code diagnosis and upgrade functions. Supported parameters and remote service capabilities depend on the HVAC system and delivered configuration.

Parameter	Specification
Model	AcmelLink_B27
Gateway allocation	One gateway per indoor unit
Dimensions	51 x 53 x 17 mm
Power source	Compatible air-conditioning indoor unit
Average power consumption	0.5 W
Mounting	Inside a suitable 86-type back box or indoor-unit service opening
Operating environment	-20 to 65 degrees C; 90% RH as specified
Auxiliary power output	DC 7-15 V, 0.7 W maximum (output, not a supply input)

Install indoors in an accessible, suitable back box or service space. Check enclosure dimensions and electrical separation. Never connect AC mains to a signal terminal or to the auxiliary DC output.

2. Interfaces, button and indicators

Marking	Function
STA / RUN	Air-conditioner and gateway status LEDs
SET	After Bluetooth connection, briefly press SET to obtain control permission
A2 / B2	Third-party temperature-control panel interface
- / + output	Auxiliary power for a compatible panel: DC 7-15 V, 0.7 W maximum
P1 / P2 / X / Y / A1 / B1	HVAC connection terminals; use the brand-specific route
Micro-USB-shaped socket	Infrared receiver connector; not identified as a USB charging or data input

LED	State	Meaning
RUN	Steady on	Indoor unit found; normal operation
RUN	Fast flashing	Searching for the indoor unit
RUN	Off	No indoor unit found
STA	Steady on	Air conditioner on
STA	Fast flashing	Air-conditioning fault
STA	Slow flashing	Third-party control-panel fault
STA	Off	Air conditioner off
RUN + STA	3 fast flashes	Bluetooth connection established

Fast flash: 0.25 seconds on and 0.25 seconds off. Slow flash: 0.5 seconds on and 0.5 seconds off. Indicator colours are not specified in this manual.

3. Installation and brand connections

Before integration, verify that the indoor and outdoor equipment has been commissioned and has no existing alarms. Isolate power before making wiring changes. Connect the HVAC communication cable to the matched terminals; add a compatible third-party panel only where required.

Each indoor unit needs its own AcmeLink_B27. Brand names identify compatibility routes, not universal support for every model. The following table preserves the supplied manual values; confirm complete model numbers and pin mapping before wiring.

HVAC system	Gateway terminals	HVAC terminals	Polarity matters	Cable cores	Original control
Daikin VRV/VRF	P1, P2	P1, P2	No	2	Yes
Hitachi VRF	P1, P2	A, B	No	2	Yes*
Hitachi US	A1, B1, X, Y	CN2	Yes	4	No
Hisense VRF	P1, P2	A, B	No	2	Yes
York VRF	P1, P2	A, B	No	2	Yes
Toshiba VRF	X, Y	A, B	No	2	Yes
Panasonic VRF	X, Y	Outer 2 pins of CN041	No	2	Yes
Mitsubishi Heavy Industries VRF	P1, P2	X, Y	No	2	Yes
Mitsubishi Heavy Industries VRF (3-wire)	A1 and B1 joined; X, Y	CNB	Yes	3	No
Midea VRF	A1, X, Y	CN20	Yes	3	Yes

3. Brand connections (continued)

HVAC system	Gateway terminals	HVAC terminals	Polarity matters	Cable cores	Original control
Midea Cool Wind	A1, B1, X, Y	CN40	Yes	4	No
Gree generation 5 VRF	P1, P2	H1, H2	No	2	Yes
Haier VRF	X, Y, B1	A, B, C	Yes	3	No
Haier ducted	A1 and B1 joined; X, Y	C, B, A	Yes	4	No
Gree ducted (2-wire)	A1, B1	COM_MANUAL pins 3, 2	Yes	2	Yes
Gree ducted (4-wire)	A1, B1, X, Y	CN5 or CN6	Yes	4	No
Daikin MX	A1, B1, X, Y	S21	Yes	4	No
Mitsubishi Electric (Lingyao)	A1, B1, X, Y	CN105	Yes	4	Yes
Hisense ducted (N+)	A1, B1, X, Y	WiFi terminal	Yes	4	Yes

* Hitachi controller coexistence has exceptions; see section 4. “Yes” in the table still requires a compatible controller and any required primary/secondary setting.

The Haier ducted row lists four cable cores while showing joined A1/B1 terminals. Confirm the exact harness and pin mapping for that unit rather than inferring a wiring change from the table alone.

4. Controller coexistence and precautions

Where the original wired controller remains connected, configure the applicable original controller as secondary. Skip this only if the original controller is not retained or the applicable system does not require this setting.

Brand	Model-specific setting
Daikin	For applicable C/E/H controllers, set the rear DIP switch to secondary. For F-series controllers, hold Cancel to enter the menu, then select the secondary controller setting.
Hitachi	3Q, 6Q and EQ controllers can be connected in parallel with automatic recognition. 8Q and 9Q controllers do not support coexistence and must be removed for this route.
Toshiba	For the 86 controller, rear DIP switch 1 ON selects secondary. For the 120 controller, rear SW2 ON selects secondary.
Mitsubishi Heavy Industries	For flip-cover controllers use rear SW1 to select secondary. On the touch controller, decline reuse of previous settings, then select secondary when prompted.

These are the controller families described in the supplied manual. Confirm the actual controller model and its instructions before adjusting a switch or menu.

Different HVAC interfaces have different polarity and terminal assignments. Incorrect polarity may prevent discovery; isolate power and verify the correct pin order before correcting wiring.

Incorrect wiring may damage the gateway. Disconnect HVAC power before any wiring work.

Route communication cables away from mains and other interfering cables. The source recommends separation of more than 15 cm from HVAC communication lines and more than 30 cm from other wiring when parallel routing cannot be avoided, or an appropriate metal protective conduit grounded at one end. Apply the equipment-specific installation requirements.

Never connect AC 220 V to signal terminals. If miswiring occurs, stop use and contact technical support; do not dismantle or repair the gateway yourself.

5. Bluetooth control and brand adaptation

Open the Gateway Bluetooth Configuration WeChat mini program and enable phone Bluetooth. Obtain the current mini-program entry from ACMELEC if it is not available in your region. Select the matching gateway from the device list. The advertised Bluetooth name may differ from the commercial model name.

After connection, briefly press SET to obtain control permission. RUN and STA flash rapidly three times when Bluetooth connection succeeds. In the air-conditioning settings screen, adjust supported on/off, mode, fan speed, airflow direction or set temperature. Available controls depend on the indoor unit and firmware.

The mini program can read available indoor-unit operating parameters for service, such as operating state, temperature readings and fault codes. Some systems also expose outdoor-unit information. Do not assume all illustrated diagnostic points exist on every system.

Brand-adaptation upgrade: confirm the full indoor-unit model and physical wiring route with ACMELEC, obtain the matching firmware, then follow the mini-program upgrade workflow for the supplied version. Keep the device powered and the phone connected during the upgrade. Recheck discovery, control and controller coexistence after completion. A firmware change does not remove the need for matching terminals and wiring.

The supplied manual does not specify a universal firmware file, account permission or exact sequence for every upgrade screen. Use the current delivery-specific instructions; request assistance if the matching brand package is unavailable.

6. Wired and wireless networking

Wired route: each indoor unit connects to its own gateway; the gateways connect through the selected RS485 integration to the smart-home controller. Wireless route: each indoor unit still has its own gateway, communicating through the selected Zigbee, WiFi or BLE configuration.

Indoor unit	Local gateway	System connection
Indoor unit 1	AcmelLink_B27 #1	Selected RS485 or wireless route
Indoor unit 2	AcmelLink_B27 #2	Selected RS485 or wireless route
Additional indoor units	One gateway for each unit	Selected host / smart-home platform

Set each gateway ID through the Bluetooth mini program. The documented ID range is 1-32. The host controls gateways by their assigned IDs and should poll at startup to identify connected gateways and IDs before regular polling. The ID range is not a claim that one gateway controls 32 indoor units.

Project matching and support

Provide the HVAC brand, full indoor-unit model, terminal photographs, indoor-unit quantity, original controller model, desired platform/interface and installation country. Ask for the matching firmware, connection instructions and host protocol documentation before ordering.

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Functions and available configurations may change. Confirm the supplied hardware and firmware specification with ACMELEC. HVAC brand names are used only to identify compatibility routes.