



# HVAC Single-Unit Gateway

Wireless gateway for single-unit HVAC control

## Product Overview

HVAC Single-Unit Gateway connects multi-split or single-split air conditioners. This manual will guide you through installation and usage of the gateway, helping you achieve optimal performance.

Currently, it supports major brands such as Daikin, Hitachi, Toshiba, Mitsubishi Electric, Hisense, Haier, Panasonic, York, Mitsubishi Heavy Industries, Midea, LG, AUX, Bosch, Gree, TICA, Samsung, Chigo, Trane, Carrier, and McQuay.

It is a part of the Lumos Controls ecosystem, comprising controllers, sensors, switches, modules, drivers, gateways, and analytical dashboards.

The Lumos Controls ecosystem is listed by the Design Lights Consortium (DLC), qualifying it for energy conservation incentive programs and rebates by utility companies.

## Specifications

### Electrical

| Specifications    | Value        |
|-------------------|--------------|
| Input Power       | DC 12V, 0.5A |
| Power Consumption | 0.5W         |

### Mechanical

| Specifications | Value                                      | Remarks   |
|----------------|--|-----------|
| Size           | 53 × 53 × 16.5 mm<br>(2.1 x 2.1 x 0.65 in) | L x W x H |
| Weight         | 41 g                                       |           |

## Features

- Seamlessly connect and command air conditioning system through a robust RS-485 (Modbus RTU) network.
- Enables intelligent monitoring and control of multi-split and single-split air conditioning systems
- Powered directly from the indoor unit signal line; no external power required

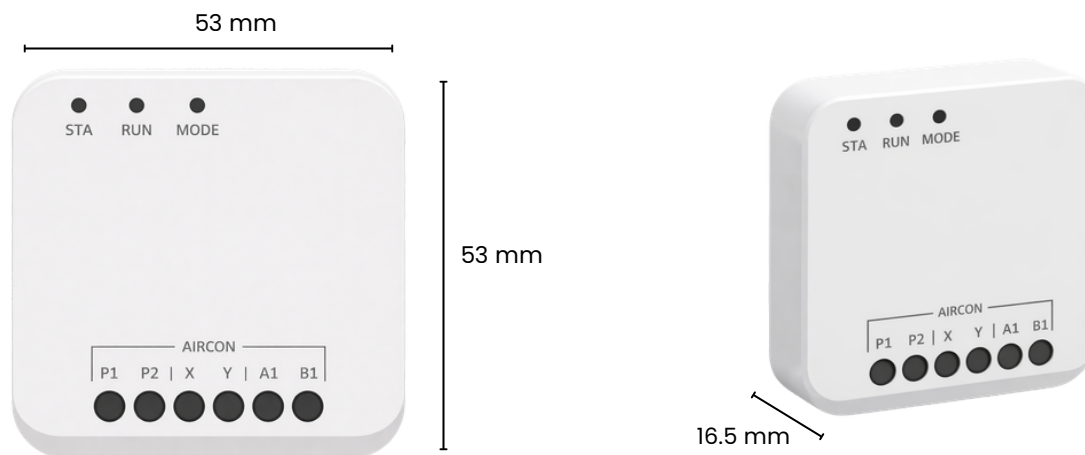
### Bluetooth

| Specifications      | Value        |
|---------------------|--------------|
| Frequency range     | 2402-2480MHz |
| Transmit power      | 8dBm         |
| Receive sensitivity | -95dBm       |

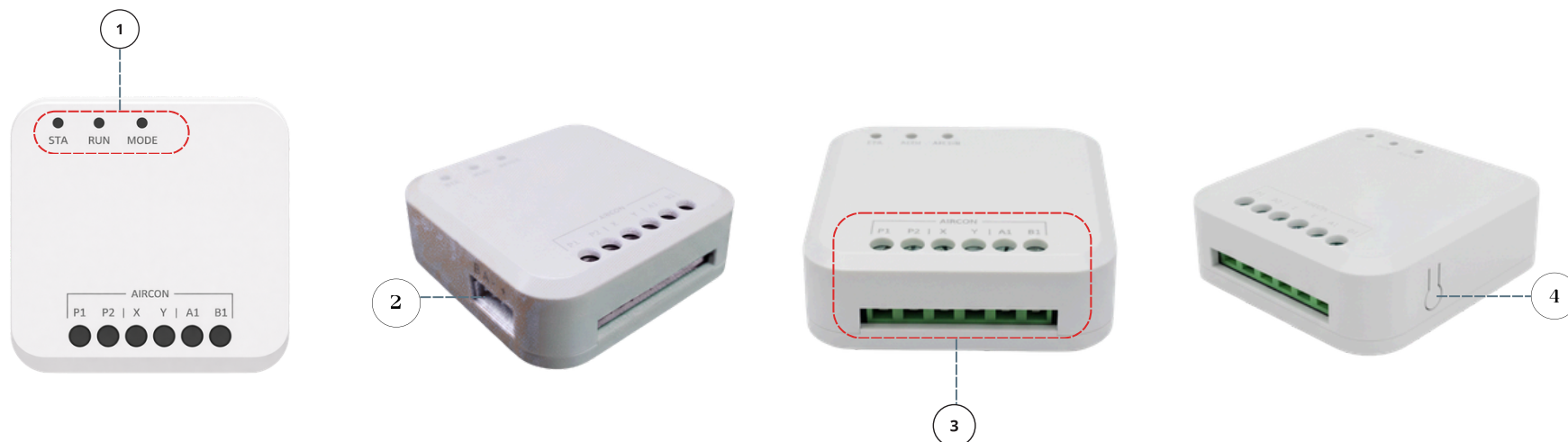
### Environmental

| Specifications        | Value                  |
|-----------------------|------------------------|
| Operating environment | -20°C to 80°C, ≤85% RH |

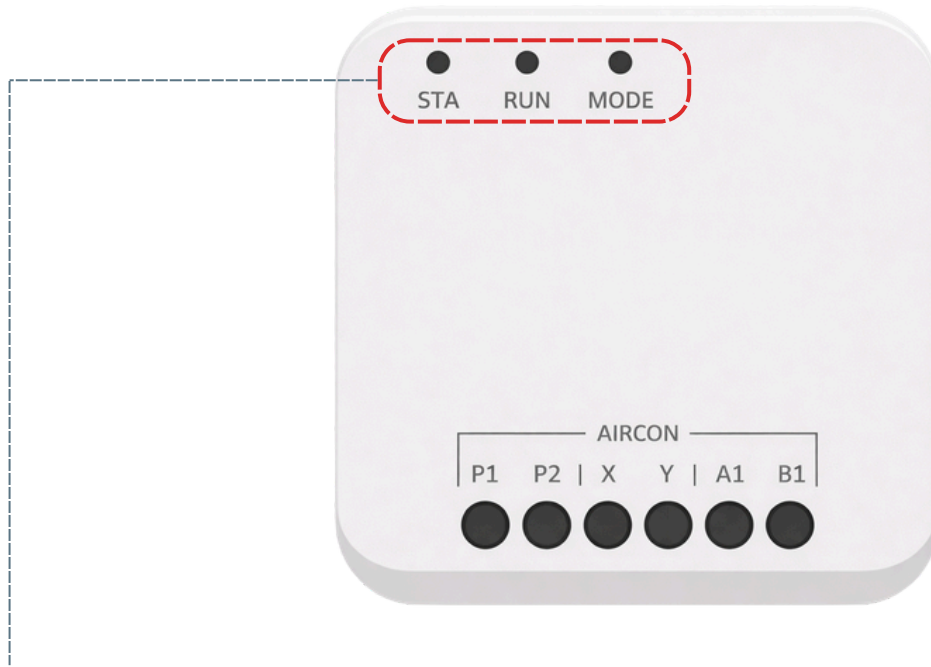
## Product Dimensions



## Product Description



|  |  |
|--|--|
| <p>1 LED Indicators (STA/RUN/MODE)</p> | <p>Indicate working status</p>   |
| <p>2 485 (A/B, +/-)</p>                | <p>Four-pin side connector for RS485 interface and external power output (max 7V, 50mA), connects to smart home systems</p>                |
| <p>3 AIRCON (PIP2/XY/A1B1)</p>         | <p>Connects to the indoor unit communication terminals (Daikin, Hitachi, Toshiba, Mitsubishi, Hisense, Haier, York, Midea, Gree, etc.)</p> |
| <p>4 Button</p>                        | <p>Reserved for future use</p>   |



## LED Indication Details

| LED Indicator | Purpose           | LED Status      | Interpretation        |
|---------------|-------------------|-----------------|-----------------------|
| STA           | Gateway indicator | Off             | No power              |
|               |                   | Green           | Powered on            |
| RUN           | AC Search         | Off             | No power              |
|               |                   | Flashing green  | Searching for AC      |
|               |                   | Solid green     | AC found              |
| MODE          | AC Mode           | Off             | Fan mode/AC off       |
|               |                   | Red             | Heating mode          |
|               |                   | Green           | Cooling mode          |
|               |                   | Orange          | Dehumidify mode       |
|               |                   | Flashing orange | AC fault or not found |

After the indoor unit gateway is powered on, all indicators flash once, and then the RUN indicator begins to flash. The gateway begins searching for the air conditioner. When the RUN indicator stays on, indicating that the air conditioner has been found.

# Product Wiring Port Selection and Communication Matching Table

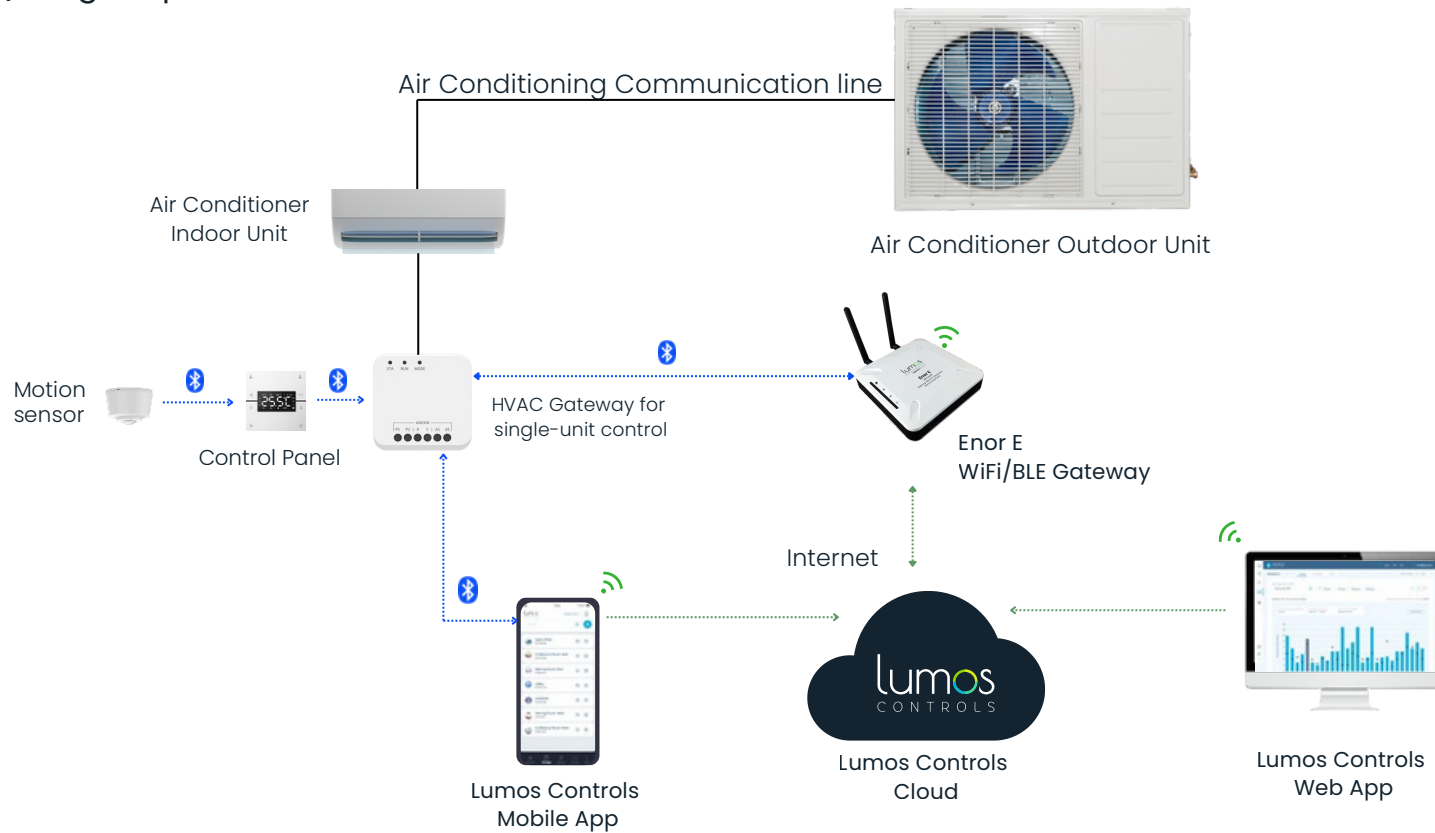
| Brand  | Gateway side wiring port | Air conditioning side wiring port | Wiring polarity | Cable   | Coexistence of original wired remote control |
|--|--------------------------|-----------------------------------|-----------------|---------|--|
| Daikin air conditioner multi-split (2 core)      | P1, P2                   | P1, P2                            | none            | 2 cores | support                                      |
| Daikin MX Duct Air Conditioner (4-core)          | X, Y, A1, B1             | S21                               | have            | 4 cores | Not supported                                |
| Daikin Shinpu (2 cores)                          | P1, P2                   | P1, P2                            | none            | 2 cores | support                                      |
| Hitachi (2-core) New Temperature                 | P1, P2                   | A, B                              | none            | 2 cores | support                                      |
| Hitachi Q3 fresh air                             | A1, B1                   | A, B                              | have            | 2 cores | support                                      |
| Hitachi multi-split/unit machine (2 core)        | P1, P2                   | A, B                              | none            | 2 cores | support                                      |
| Hitachi duct air conditioner(4 core)             | X, Y, A1, B1             | CN2                               | have            | 4 cores | Not supported                                |
| Hisense multi-port unit (2 core)                 | P1, P2                   | A, B                              | none            | 2 cores | support                                      |
| Hisense Duct Air Conditioner WiFi (4-core)       | X, Y, A1, B1             | WiFi terminal                     | none            | 4 cores | support                                      |
| Kelon WiFi (4-core)                              | X, Y, A1, B1             | WiFi terminal                     | have            | 4 cores | support                                      |
| York multi-link (2 core)                         | P1, P2                   | A, B                              | none            | 2 cores | support                                      |
| York duct air conditioner (4 core)               | X, Y, A1, B1             | Wired-X970                        | none            | 4 cores | Not supported                                |
| York Duct Air Conditioner WiFi (4-core)          | X, Y, A1, B1             | WiFi terminal                     | none            | 4 cores | support                                      |
| LG_ARNU05GL1G4 Multi-port (3-core)               | X, Y, A1 and B1 parallel | CN-REMO terminal                  | have            | 3 cores | Not supported                                |
| LG_(CN_CC) Multi-link (4-core)                   | X, Y, A1, B1             | CN-CC terminal                    | none            | 4 cores | support                                      |
| Carrier Jiwei/Chigo (3-core)                     | X, Y, A1 and B1 parallel | CN27 or CN35                      | have            | 3 cores | Not supported                                |
| Toshiba multi-link (3-core)                      | X, Y, A1 and B1 parallel | WCN1 or WCN2                      | none            | 3 cores | support                                      |
| Toshiba multi-link (2core)                       | X, Y                     | A, B                              | none            | 2 cores | support                                      |
| Toshiba duct air conditioner(2 core)             | X, Y                     | A, B                              | none            | 2 cores | support                                      |
| Toshiba duct air conditioner (3 core)            | X, Y, A1 and B1 parallel | WCN1 or WCN2                      | have            | 3 cores | support                                      |
| Panasonic multi-link (2-core)                    | X, Y                     | R1, R2                            | none            | 2 cores | support                                      |
| Panasonic duct air conditioner (4-core)          | X, Y, A1, B1             | CN-GMD                            | have            | 4 cores | Not supported                                |
| Mitsubishi Heavy/Industries multi-split (2 core) | P1, P2                   | X, Y                              | none            | 2 cores | support                                      |

|   |                              |  |      |         |  |
|---|------------------------------|--|------|---------|--|
| Mitsubishi Heavy/Industries multi-split (3 core)          | X, A1 and B1 are parallel, Y | X, Y, Z                                | have | 3 cores | support  |
| Mitsubishi Heavy/Industries duct air conditioner (3 core) | X, A1 and B1 are parallel, Y | X, Y, Z                                | none | 3 cores | support  |
| Mitsubishi Heavy/Industries Duct AC (2 core)              | P1, P2                       | X, Y                                   | none | 2 cores | support  |
| Gree multi-line/duct air conditioner (2 core)             | P1, P2                       | H1, H2 (Panel models XC70, XC71, etc.) | none | 2 cores | support  |
| Gree duct air conditioner (4 core)                        | X, Y, A1, B1                 | CN6                                    | have | 4 cores | Not supported  |
| Gree XK111 (2 core)                                       | A1, B1                       | H1, H2                                 | have | 2 cores | support  |
| Haier Multi-link (3 core)                                 | X, Y, B1                     | CN22 terminals (A, B, C)               | have | 3 cores | support  |
| Haier duct air conditioner (3 core)                       | X, Y, A1 and B1 parallel     | Control/CN42 (A, B, C)                 | have | 3 cores | Not supported  |
| Haier duct air conditioner control (REMOTE)               | X, Y, A1 and B1 parallel     | CN4, REMOTE terminal                   | have | 4 cores | support  |
| Mitsubishi Electric CN105 multi-split unit (4 core)       | X, Y, A1, B1                 | CN105                                  | have | 4 cores | support  |
| Midea CN20 (5 core)                                       | X, Y, A1, B1                 | CN20                                   | have | 4 cores | support  |
| Midea CN40 (4 core)                                       | X, Y, A1, B1                 | CN40                                   | have | 4 cores | Not supported  |
| Midea CN40 coexistence (4 core)                           | X, Y, A1, B1                 | CN40                                   | have | 4 cores | Supported (not supported when gateway 485 is occupied) |
| Midea V8-X1X2 Multi-link (2 core)                         | A1, B1                       | X1, X2                                 | none | 2 cores | support  |
| Midea WIW2/COLMO (2 core)                                 | A1, B1                       | W1, W2                                 | none | 2 cores | support  |
| Midea X1X2 Multi-link (2 core)                            | A1, B1                       | X1, X2                                 | none | 2 cores | support  |
| Midea X1X2 Duct Air Conditioner (2 core)                  | A1, B1                       | X1, X2                                 | none | 2 cores | support  |
| Samsung multi-link (4 core)                               | X, Y, A1, B1                 | V1, V2, F3, F4                         | have | 4 cores | support  |

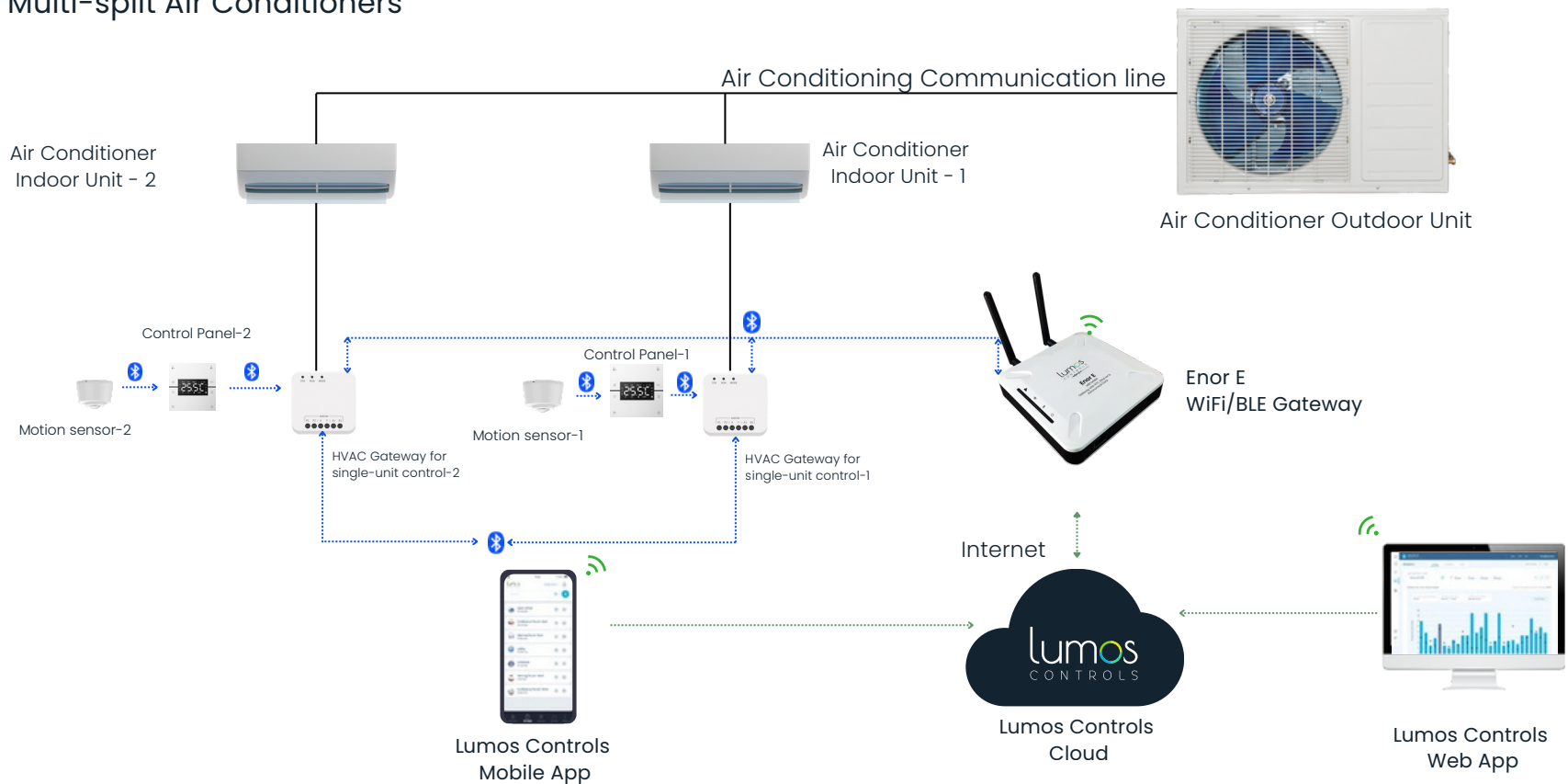
**Note:** Some four-core air conditioners require wiring for use with this product. Wire colors: X—red, Y—black, A1—yellow, B1—green. Please perform on-site wiring and device connections according to the table above, depending on the air conditioner brand.

# Wiring

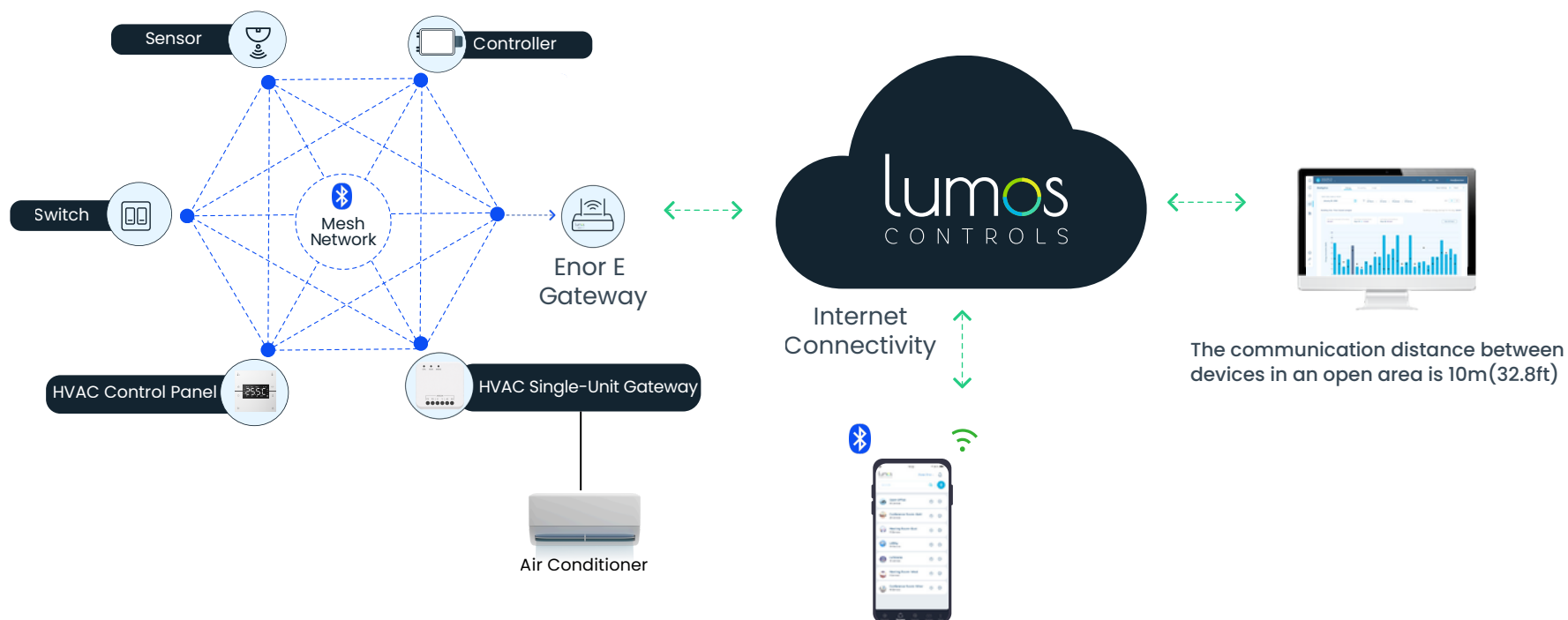
## 1) Single-split Air Conditioners



## 2) Multi-split Air Conditioners



## Smart Ecosystem



## Ordering Information

| Product Code | Product Name             | Product Description  |
|--------------|--------------------------|--|
| A07S         | HVAC Single-Unit Gateway | Wireless HVAC gateway to control single-split or multi-split air conditioner |

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