# Installation Sheet for IN485PAN001I000

Version 1.0

## Safety Information

!  Follow these instructions carefully. Improper work may seriously harm your health and damage the gateway and/or any other equipment connected to it.

Only technical personnel, following these instructions and the country legislation for installing electric equipment, can install and manipulate this gateway.

Install this gateway indoors, in a restricted access location, avoiding exposure to direct solar radiation, water, high relative humidity, or dust.

All wires, for communication and power supply (if needed), must only be connected to networks with indoor wiring. All communication ports are considered for indoor use and must only be connected to SELV circuits.

Disconnect power wires before manipulating and connecting them to the gateway.

Use SELV-rated NEC class 2 or limited power source (LPS) power supply.
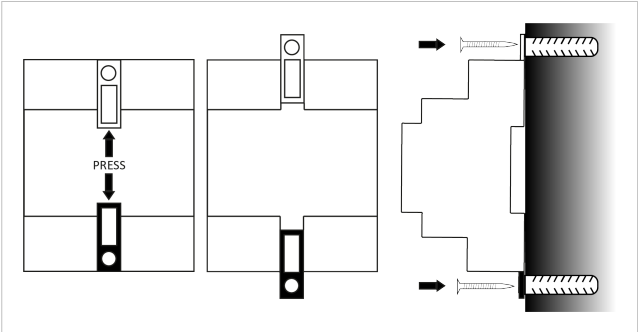
Supply the correct voltage to power the gateway. See the Technical Specifications table at the end of this document.

Respect the expected polarity of power (if needed) and communication cables when connecting them to the gateway.

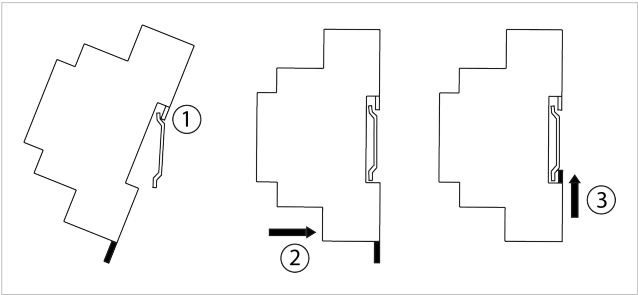## Installation Instructions

### Wall mounting

1. Press the rear panel clips until you hear a *click*.
2. Use the clip holes to screw the gateway to the wall.
3. Make sure the gateway is firmly fixed.



### DIN rail mounting

Keep the top side clip in its original position.

1. Insert the gateway in the upper edge of the DIN rail.
2. Fit the low side of the gateway in the DIN rail.
3. Push the bottom clip back to its original position, locking the gateway to the rail.
4. Make sure the gateway is firmly fixed.



📝  DIN rail mounting inside a grounded metallic cabinet is recommended.
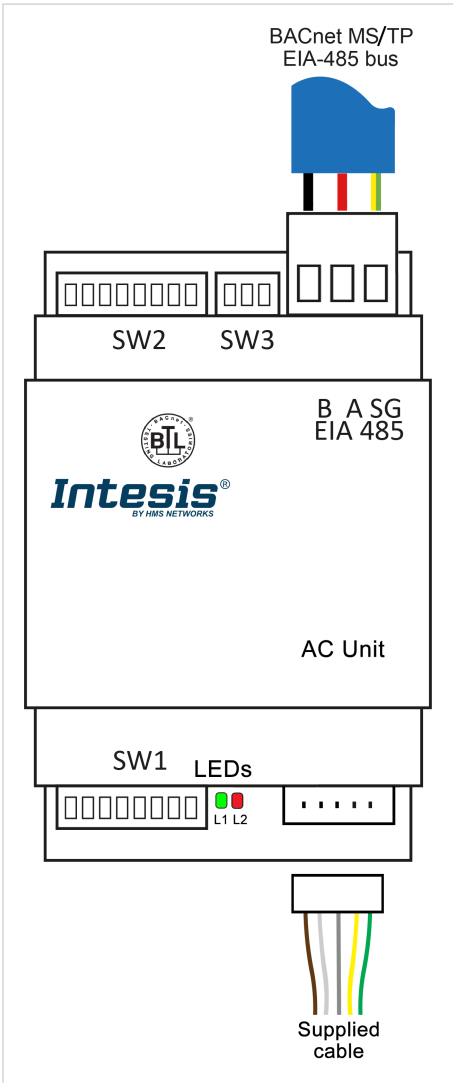
## Connection Instructions



Figure 1. Wiring diagram *(wire colors are indicative only)*

1. Disconnect the AC system from the power.
2. Mount the gateway in the desired place.
3. Use the supplied cable to connect the AC unit and the gateway:

   !  This cable is 1.20 m (3.9 feet) long. Its modification in length may affect the correct operation of the gateway.

   a. **AC unit connection:** Plug the largest unsheathed cable part connector into the socket CN-CNT of the AC unit control board.
   b. **Gateway connection:** Plug the other end connector, the one on the shortest unsheathed part of the cable, into the socket labeled as **AC Unit**.
4. Connect the BACnet MS/TP bus to the EIA-485 port of the gateway.

   !  Observe polarity: B-, A+, and SG for ground connection.

   !  Keep communication cables away from power and ground wires.

# DIP Switches

The gateway includes three built-in DIP switches: SW1 (8 switches) at the bottom side; SW2 (8 switches) and SW3 (3 switches) at the top side.

Table 1. SW1 (P1, P2): AC unit configuration; (P6 to P8): BACnet MS/TP baudrate

| Binary value | Switches | | | | | | | | Description |
|---|---|---|---|---|---|---|---|---|---|
| b0 .. b7 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| 0 X X X X X X X | ↓ | X | X | X | X | X | X | X | Fan mode off |
| 1 X X X X X X X | ↑ | X | X | X | X | X | X | X | Fan mode on (default) |
| X 0 X X X X X X | X | ↓ | X | X | X | X | X | X | Horizontal vanes off |
| X 1 X X X X X X | X | ↑ | X | X | X | X | X | X | Horizontal vanes on (default) |
| X X X X X 0 0 0 | X | X | X | X | X | ↓ | ↓ | ↓ | Autobaudrate (default value) |
| X X X X X 1 0 0 | X | X | X | X | X | ↑ | ↓ | ↓ | 9600 bps |
| X X X X X 0 1 0 | X | X | X | X | X | ↓ | ↑ | ↓ | 19200 bps |
| X X X X X 1 1 0 | X | X | X | X | X | ↑ | ↑ | ↓ | 38400 bps |
| X X X X X 0 0 1 | X | X | X | X | X | ↓ | ↓ | ↑ | 57600 bps |
| X X X X X 1 0 1 | X | X | X | X | X | ↑ | ↓ | ↑ | 76800 bps |
| X X X X X 0 1 1 | X | X | X | X | X | ↓ | ↑ | ↑ | 115200 bps |
| X X X X X 1 1 1 | X | X | X | X | X | ↑ | ↑ | ↑ | Autobaudrate |

Table 2. SW2 (P1 to P7): BACnet MS/TP MAC address; (P8): Temperature unit (°C/°F)

| Binary value | Switches | | | | | | | | MAC address | Description |
|---|---|---|---|---|---|---|---|---|---|---|
| b0 .. b7 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | |
| 0 0 0 0 0 0 0 X | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | X | 0 | - |
| 1 0 0 0 0 0 0 X | ↑ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | X | 1 | - |
| 0 1 0 0 0 0 0 X | ↓ | ↑ | ↓ | ↓ | ↓ | ↓ | ↓ | X | 2 | - |
| 1 1 0 0 0 0 0 X | ↑ | ↑ | ↓ | ↓ | ↓ | ↓ | ↓ | X | 3 | - |
| ... | ... | | | | | | ... | | ... | - |
| 1 0 1 1 1 1 1 X | ↑ | ↓ | ↑ | ↑ | ↑ | ↑ | ↑ | X | 125 | - |
| 0 1 1 1 1 1 1 X | ↓ | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | X | 126 | - |
| 1 1 1 1 1 1 1 X | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | X | 127 | - |
| X X X X X X X 0 | X | X | X | X | X | X | X | ↓ | - | Temperature in Celsius (default) |
| X X X X X X X 1 | X | X | X | X | X | X | X | ↑ | - | Temperature in Fahrenheit |

Table 3. SW3 (P1 to P3): BACnet polarization and termination resistor

| Binary value | Switches | | | Description |
|---|---|---|---|---|
| b0 .. b2 | 1 | 2 | 3 | |
| 0 X X | ↓ | X | X | EIA-485 bus without termination resistor. The gateway is not at one end of the EIA-485 bus (default value) |
| 1 X X | ↑ | X | X | 120 Ω termination resistor active. The gateway is at one end of the EIA-485 bus |
| X 0 0 | X | ↓ | ↓ | No bus polarization (default value) |
| X 1 1 | X | ↑ | ↑ | Bus polarization active |

**!** The DIP switches configuration will only take effect after rebooting the gateway.

# LEDs Information

Two LEDs are placed between SW1 and the AC Unit socket at the gateway's bottom.

| LED | Status | Description |
|---|---|---|
| **BACnet** | | |
| L1 Green | ON | BACnet MS/TP link performed |
| | Flickering | Activity on the BACnet MS/TP bus |
| | OFF | BACnet MS/TP link not performed |
| **AC unit** | | |
| L2 Red | ON | AC communication error |
| | Blinking | AC unit error |
| | Flashing | AC communication OK |

**LED PATTERNS**
- **ON**: 100% on
- **Flickering**: irregular cycle (90% on - 10% off approx)
- **Blinking**: 50% on - 50% off
- **Flashing**: 10% on - 90% off
- **OFF**: 100% off

# Technical Specifications

| | | |
|---|---|---|
| Enclosure | Plastic, type PC (UL 94 V-0) | |
| | Net dimensions (DxWxH): 93 x 53 x 58 mm / 3.7 x 2.1 x 2.3" | |
| | Color: Light grey. RAL 7035 | |
| Weight | 85 g (3 oz) | |
| Terminal wiring for low-voltage signals | Per terminal: solid wires or stranded wires (twisted or with ferrule) | |
| | 1 core: 0.5 to 2.5 mm$^2$ (24 to 11 AWG) | |
| | 2 cores: 0.5 to 1.5mm$^2$ (24 to 15 AWG) | |
| | 3 cores: not permitted | |
| Mounting | Wall or DIN rail | |
| BACnet MS/TP port | 1 x EIA-485 pluggable terminal block (3 poles: B, A, and SG) with 120 Ω resistor termination and polarisation configurable by DIP switch | |
| AC unit port | 1 x Specific socket | |
| LED indicators | 2 x Communication status | |
| DIP switches | SW1: AC unit and baudrate configuration | |
| | SW2: MAC address and temperature unit | |
| | SW3: Bus polarization and termination | |
| Operational and storage temperature | Celsius: Op: 0 to +70°C; St: -20 to 85°C | |
| | Fahrenheit: 32 to 158°F; St: -4 to 185°F | |
| Operational and storage humidity | 5% to 95%, non-condensing | |
| Isolation Voltage | 1500 VDC | |
| Isolation resistance | 1000 MΩ | |

# Disposal and Recycling

This product contains electronic components and must be properly disposed of according to local laws and regulations. For further information, refer to: https://www.intesis.com/weee-regulation

For further information on the installation, connection, and configuration of this gateway, refer to the User Manual.