Installation Sheet for IN485HIT001R0XX

The order code may vary depending on the product seller and the buyer's location.

Version: 1.1.2

Owner's record

Find the serial number on the silver label on the right side of the gateway. For sales or technical assistance, we recommend writing it in the space below:

SN:

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 without routing to the outside plant. 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.

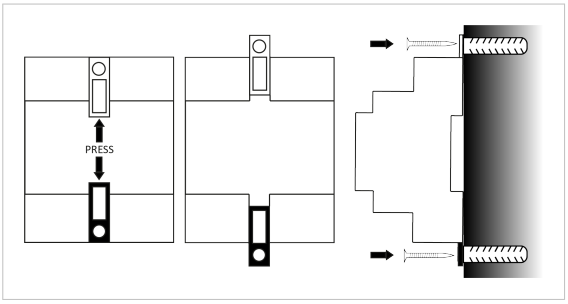
Mounting

Do not mount the gateway in air-handling units or conducts.

DIN rail mounting inside a grounded metallic cabinet is recommended.

Wall mounting

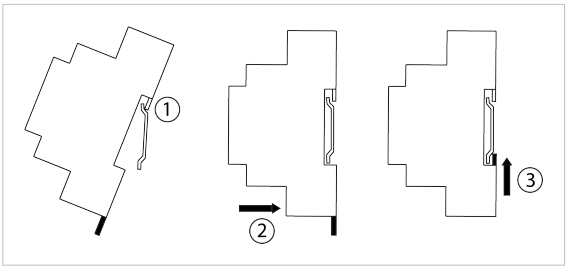
1. Press the rear panel clips until you hear a *click*.
2. Use the clip holes to screw the gateway to the wall.
3. Make sure the gateway is firmly fixed.



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.



Wiring

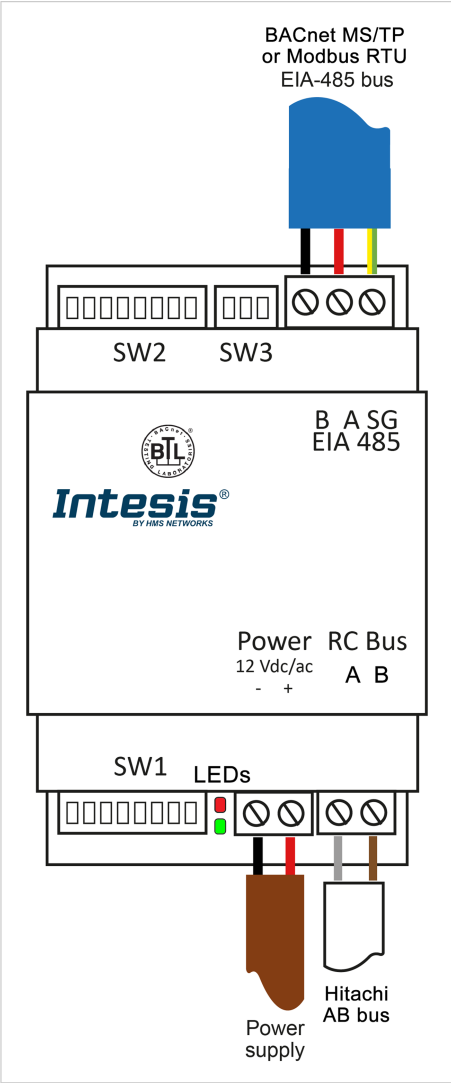


Figure 1. Wiring diagram *(wire colors are indicative only)*

1. Disconnect the AC system from the power.
2. Mount the gateway in the desired place.
3. Connect the AB bus to the gateway's RC bus connector. This bus has no specific polarity.
4. Connect the BACnet MS/TP or Modbus RTU 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.

Connection to an external power supply: This gateway is powered by the AB bus itself, and there is no need to connect an external power supply. Nonetheless, the bus could not supply the needed power* depending on the number and type of remote controllers installed. If that's the case, connect a 12V DC/AC SELV-rated NEC class 2 or Limited Power Source (LPS) power supply in the gateway's Power connector.

*Some signs indicating there is not enough power in the bus may include, for example, a malfunction of the remote controllers' displays or performance.

DIP Switches

Table 1. **SW1** (P1, P5): Gateway configuration; (P6 to P8): BACnet MS/TP or Modbus RTU baudrate

Binary value	Position								Description	
b0 .. b7	1	2	3	4	5	6	7	8	BACnet	Modbus
0XXXXXXX	↓	X	X	X	X	X	X	X	Follower in AB bus (default)	Follower in AB bus (default)
1XXXXXXX	↑	X	X	X	X	X	X	X	Header in AB bus	Header in AB bus
01XXXXXX	↓	↑	X	X	X	X	X	X	-	-
11XXXXXX	↑	↑	X	X	X	X	X	X	-	-
XXXX0XXX	X	X	X	X	↓	X	X	X	BACnet MS/TP in 485 port enabled (default)	Modbus RTU in 485 port disabled (default)
XXXX1XXX	X	X	X	X	↑	X	X	X	BACnet MS/TP in 485 port disabled	Modbus RTU in 485 port enabled
XXXXX000	X	X	X	X	X	↓	↓	↓	Autobaudrate (default)	2400 bps
XXXXX100	X	X	X	X	X	↑	↓	↓	9600 bps	4800 bps
XXXXX010	X	X	X	X	X	↓	↑	↓	19200 bps	9600 bps
XXXXX110	X	X	X	X	X	↑	↑	↓	38400 bps	19200 bps
XXXXX001	X	X	X	X	X	↓	↓	↑	57600 bps	38400 bps
XXXXX101	X	X	X	X	X	↑	↓	↑	76800 bps	57600 bps
XXXXX011	X	X	X	X	X	↓	↑	↑	115200 bps	76800 bps
XXXXX111	X	X	X	X	X	↑	↑	↑	Autobaudrate	115200 bps

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

Binary value	Position								BACnet address	Description
b0 .. b7	1	2	3	4	5	6	7	8		
0000000X	↓	↓	↓	↓	↓	↓	↓	X	0	-
1000000X	↑	↓	↓	↓	↓	↓	↓	X	1	-
0100000X	↓	↑	↓	↓	↓	↓	↓	X	2	-
1100000X	↑	↑	↓	↓	↓	↓	↓	X	3	-
...									...	-
1011111X	↑	↓	↑	↑	↑	↑	↑	X	125	-
0111111X	↓	↑	↑	↑	↑	↑	↑	X	126	-
1111111X	↑	↑	↑	↑	↑	↑	↑	X	127	-
XXXXXXX0	X	X	X	X	X	X	X	↓	-	Temperature in Celsius (default)
XXXXXXX1	X	X	X	X	X	X	X	↑	-	Temperature in Fahrenheit

Table 3. **SW2 (Modbus RTU)** (P1 to P6): Modbus server address; (P7): Degree decimals setting (P8): Temperature unit (°C/°F)

Binary value	Position								Modbus address	Description
b0 .. b7	1	2	3	4	5	6	7	8		
100000XX	↑	↓	↓	↓	↓	↓	X	X	1	-
010000XX	↓	↑	↓	↓	↓	↓	X	X	2	-
110000XX	↑	↑	↓	↓	↓	↓	X	X	3	-
...									...	-
101111XX	↑	↓	↑	↑	↑	↑	X	X	61	-
011111XX	↓	↑	↑	↑	↑	↑	X	X	62	-
111111XX	↑	↑	↑	↑	↑	↑	X	X	63	-
XXXXXX0X	X	X	X	X	X	X	↓	X	-	Temperature in degrees x1 (default)
XXXXXX1X	X	X	X	X	X	X	↑	X	-	Temperature in degrees x10. Example: 19.2°=192
XXXXXXX0	X	X	X	X	X	X	X	↓	-	Temperature in Celsius (default)
XXXXXXX1	X	X	X	X	X	X	X	↑	-	Temperature in Fahrenheit

Table 4. **SW3** (P1 to P3): BACnet/Modbus polarization and termination resistor

Binary value	Position			Description
b0 .. b2	1	2	3	
0XX	↓	X	X	EIA-485 bus without termination resistor. The gateway is not at one end of the EIA-485 bus (default value)
1XX	↑	X	X	120 Ω termination resistor active. The gateway is at one end of the EIA-485 bus
X00	X	↓	↓	No bus polarization (default value)
X11	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 Power connector at the gateway's bottom.

LED	Status	Description
When the gateway is set for BACnet MS/TP		
L1 Green	ON	EIA-485 bus link performed
	Flickering	Activity on the EIA/485 bus
	OFF	EIA-485 bus link not performed
L2 Red	ON	AC communication error
	Blinking	AC unit error
	Flashing	AC communication OK
When the gateway is set for Modbus RTU		
L1 Green	Blinking	Comunication error Any error in the AC unit
	Flashing	Normal operation
L1 Green + L2 Red	Pulse	Gateway startup
LED PATTERNS: **Flickering:** 90 % on / 10 % off **Blinking:** 50 % on / 50 % off **Flashing:** 10 % on / 90 % off **Pulse:** 5 sec on / then 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” Recommended space for installation (DxWxH): 100 x 60 x 70 mm / 4 x 2.4 x 2.8" 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). Wire cross-section/gauge: 1 core: 0.5 to 2.5 mm^2 (20 to 14 AWG) 2 cores: 0.5 to 1.5mm^2 (20 to 16 AWG) 3 cores: not permitted
External power supply (optional)	SELV-rated NEC class 2 or limited power source (LPS) power supply. 12 VDC/AC; 0.1 A
Mounting	Wall or DIN rail
BACnet MS/TP - Modbus RTU 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 RC bus pluggable terminal block (2 poles: A, B)
LED indicators	2 x Communication status
DIP switches	SW1: Gateway 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.