Intesis®
BY HMS NETWORKS

IN770MID00*O000
Midea VRF gateway with
KNX, Serial and IP support
Order Code: IN770MID00*O000
* Stands for the Intesis gateway capacity and varies depending on the specific gateway acquired

Installation Sheet rev.1.1
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SAFETY INSTRUCTIONS

⚠ WARNING

Follow these safety and installation instructions carefully. Improper work might lead to serious harm to your health and damage this Intesis gateway and/or any other equipment connected to it.

Only accredited technical personnel, following all the safety instructions and in accordance with the country's legislation for electric equipment installation, can install and manipulate the gateway.

Install the gateway indoors, in a restricted access location, and sheltered from direct solar radiation, water, high relative humidity, or dust.

Mount the gateway, preferably, on a DIN rail inside a grounded metal cabinet following the instructions below.

In the case of wall mount, firmly fix the gateway on a not vibrating surface following the instructions below.

Disconnect any wires from its power source before manipulating and connecting them to the Intesis gateway.

Use a SELV-rated NEC Class 2 or Limited Power Source (LPS) power supply.

Respect the expected polarity of power and communication cables when wiring the gateway.

Supply the correct voltage to power the Intesis gateway. See the voltage range admitted by the gateway in the technical specifications table at the end of this document.

CAUTION: Connect the gateway only to networks without routing to the outside plant. All communication ports are considered for indoor use and can be connected to SELV circuits only.

This gateway was designed for installation inside an enclosure. When working inside an enclosure (ex. to make adjustments, set switches, etc.), observe the common anti-static precautions before manipulating the gateway.

Take precautions when installing it outside an enclosure, in environments with static levels above 4 kV, to avoid electrostatic discharges.

Safety instructions in other languages can be found at:
https://intesis.com/docs/manuals/v6-safety

CONFIGURATION

Use the Configuration tool to configure the gateway.

See the instructions to download and install the latest version at:
https://www.intesis.com/products/intesis-maps

Use the Ethernet connection or the Console Port for communication between the gateway and the Configuration tool (see the Connections section below). For more info, refer to the User manual.

INSTALLATION

Follow these instructions to properly install the gateway.

CAUTION: Do not install the gateway in air-handling units or conducts.

Disconnect all installation equipment from the power source before wiring the Intesis gateway. Make sure there's no current in any bus, communication cable, and electric wire of the installation.

Follow the instructions below to mount the gateway (wall and DIN rail mounting are allowed).

Connect a SELV-rated NEC Class 2 or Limited Power Source (LPS) power supply to the Intesis gateway. Connect the gateway's ground terminal to the installation grounding. Apply the voltage within the admitted range and of enough power (see the Technical Specifications table at the end of this document).

Use a circuit breaker before the power supply. Rating: 250 V,6 A.

Connect the communication cables to the Intesis gateway (see the Connections section below).

Power the gateway and the installation equipment.

Wall Mount

1. Press the top side mobile clips in the rear panel until you hear a *click*.
2. Use the clip holes to fix the gateway on the wall using screws. (Use M3 screws, 25 mm (1") length).
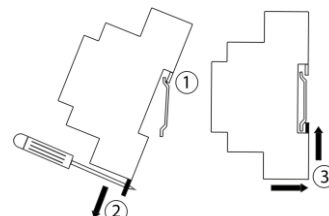3. Make sure the gateway is firmly fixed.
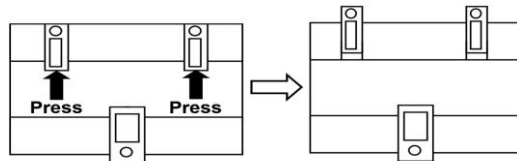
Clips in their original position (for DIN rail mount)   *Clips in position for wall mount*
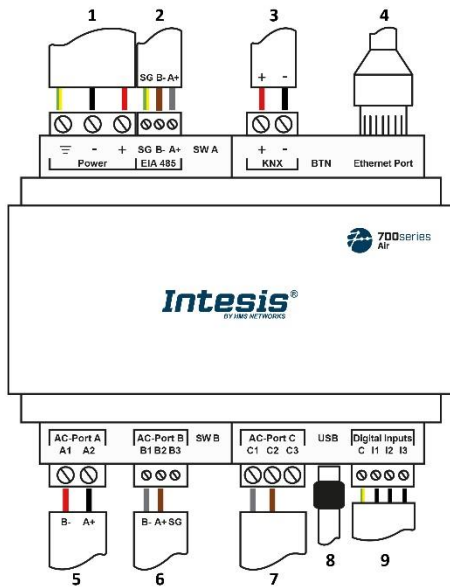
DIN Rail Mount

Keep the clips down in their original position.
1. Fit the gateway's top side clips in the upper edge of the DIN rail.
2. Use a screwdriver or similar to pull the bottom clip down.
3. Fit the low side of the gateway in the DIN rail and let the clip switch back to its original position, locking the gateway to the rail.
4. Make sure the gateway is firmly fixed.

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CONNECTIONS

Power Supply
Use a SELV-rated NEC class 2 or Limited Power Source (LPS) power supply.
   If using DC power supply:
   Respect the polarity labeled on the power connector (+) and (-). Be sure the voltage applied is within the range admitted (12 to 36 VDC +/-10%). Connect the gateway´s ground terminal to the installation grounding.
   If using AC power supply:
   Make sure the voltage applied is of the admitted value (24 VAC +/-10%). Connect the gateway´s ground terminal to the installation grounding and ensure the same power supply is not powering any other device.

Ethernet / Console (UDP & TCP) and the configured protocols
Use an Ethernet CAT5 or higher cable. If using the building LAN, contact the network administrator and make sure traffic is allowed. When starting up the gateway for the first time, DHCP will be enabled for 30 seconds. After that time, the default IP 192.168.100.246 will be set.
Use the Ethernet Port to configure the gateway with the Configuration Software. For more info, refer to the Intesis MAPS User manual.

Port B / Midea VRF
Connect the XY terminals of Midea XYE Outdoor Unit to the connectors B1 (Y) B2 (X) of gateway's Port B. Respect the polarity

BMS Protocol	Port EIA485	Port KNX	Ethernet
BACnet	BACnet MSTP	(Not used)	BACnet IP & Console
Modbus	Modbus RTU	(Not used)	Modbus TCP & Console
KNX	(Not used)	KNX	Console
Home Automation	(Not used)	(Not used)	Home Automation & Console

AC Manufacturer	Port A	Port B	Port C	Ethernet
Midea	(Not used)	VRF (XY)	(Not used)	(Not used)

Pin Out	EIA485	Port A	Port B	Port C	Scan here for configuration details
B-	B-	A1	B1	C1	
A+	A+	A2	B2	C2	
SNGD	SG		B3		

Note for Port EIA485
Standard EIA-485 bus requirements: maximum distance of 1200 meters (0.75 miles); up to 32 devices connected; a 120 Ω resistor at each end of the bus. Configure the bus biasing and termination resistor for Port EIA-485 with the DIP switch SWA (see the table below).

Console Port
Connect the gateway to a computer using the min-type B USB cable (included) to configure it with the Configuration Software. For more info, refer to the Intesis MAPS User manual.

1. **Power Supply** (12-36VDC / 24VAC)
2. **Port EIA485**
3. **Port KNX**
4. **Ethernet**
5. **Not used**
6. **Midea VRF (XY)**
7. **Not used**
8. **Console**
9. **Binary inputs** (dry contact) optional

ELECTRICAL & MECHANICAL FEATURES

Enclosure	Plastic, type PC (UL 94 V-0) Net dimensions (dxwxh): 90x106x58 mm / 3.5x4.2x2.3" Recommended space for installation (dxwxh): 130x115x100 mm / 5.1x4.5x3.9" Color: Light Grey. RAL 7035	**Binary Inputs**	1 x Green pluggable terminal block (4 poles) I1, I2, I3, and Common 1500 VDC isolation from other ports
Mounting	Wall: M3 25 mm (1") length screws, below 2 meters (6 feet) DIN rail EN60715 TH35	**Console Port**	Mini Type-B USB 2.0 compliant 1500 VDC isolation

Terminal wiring
For power supply and low-voltage signals
	Per terminal: solid wires or stranded wires (twisted or with ferrule)
	   1 core: 0.5 to 2.5mm^2 (24 to 11 AWG)
	   2 cores: 0.5 to 1.5mm^2 (24 to 15 AWG)
	   3 cores: not permitted
	For distances longer than 3.05 meters (10 feet), use lass 2 cables.
		Switch A / Switch B
		(SW A / SW B)
			2 x DIP switches for Ports EIA-485 configuration:
			   Position 1:
			      ON: 120 Ω termination active
			      Off: 120 Ω termination inactive
			   Position 2 and 3:
			      ON: Polarization active
			      Off: Polarization inactive

Power	1 x Green pluggable terminal block (3 poles)
	   12 to 36 VDC +/-10%, Max.: 250 mA.
	   24 VAC +/-10% 50-60 Hz, Max.: 127 mA
	   Recommended: 24 VDC
		Push Button	Check the User manual

		Operational Temperature	Celsius: 0 to +60°C Fahrenheit: 32 to 140ºF
Ethernet	1 x Ethernet 10/100 Mbps RJ45	**Operational Humidity**	5 to 95%, no condensation
Port EIA 485	1 x Green pluggable terminal block (3 poles) SGND (Reference ground or shield) 1500VDC isolation from other ports	**Protection**	IP20 (IEC60529)
Port KNX	1 x Orange pluggable terminal block (2 poles) A, B		
Ports AC	AC Port A: Serial 2 poles (Not used) AC Port B: Serial 3 poles AC Port C: Serial 2 poles (Not used)		

LEDs	14 x LED indicators
	   2 x Run (Power/Error) 2 x Ethernet Link/Speed
	   2 x Port EIA-485 TX/R 2 x AC-Port A TX/RX
	   2 x Port KNX TX/TR 2 x AC-Port B TX/RX
	   1 x Button indicator 2 x AC-Port C TX/RX		

100 mm (h)
115 mm (w)
130 mm (d)