Intesis®
BY HMS NETWORKS

Gateways for building automation and HVAC control

Connecting sustainable buildings

HMS

Intesis connecting buildings

At Intesis, the **Building Automation division of HMS Networks**, we are specializing in developing advanced gateway solutions that simplify and enhance building integration.

With over **25 years of experience** and innovation, our technology is trusted worldwide for its reliability, performance, and ease of use.

Our product portfolio is structured around four main categories, each designed to address specific integration challenges in modern buildings:

- **AC Gateways**
- **Protocol Converter Gateways**
- **Air-to-Water Heat Pump**
- **Cloud Control Gateways**

About HMS Networks

With millions of installed products worldwide, HMS Networks is the leading supplier of solutions for Industrial ICT (Information & Communication Technology).
We enable valuable data and insights from industrial equipment, allowing our customers to increase productivity and sustainability.

Employees:	> 1200
Operations:	> 20 countries
Distributors:	> 50 countries
Brands:	Anybus, Ewon, Intesis, Ixxat, Owasys, Red Lion, PEAK-Systems
Customers:	Device manufacturers, machine builders, system integrators, end users
Year founded:	1988

High quality standards

Intesis products are subject to extensive testing and certification processes to ensure the highest quality standards. Also, additional tests are implemented for specific markets.

100% tested

Every product is tested on premises to ensure the highest quality standards.

UL listed

Intesis products contain UL marked components and the production line is subject to periodic UL audits. It is with pride that we put the UL mark on all main Intesis products.

Global coverage

In addition to rigorous internal quality tests, Intesis products are also certified by independant testing labs to fulfill national legal requirements on different markets.

Protocol certifications

All implementations of standard protocols in Intesis products are performed rigorously according to each protocol specification. Full interoperability is then ensured thanks to testing and certification by external accredited laboratories.

Optimize building automation and reduce energy consumption

AC Gateways

Designed to enhance performance and reduce energy consumption by up to 40%.

Cloud Control Gateways

Enabling remote HVAC system control via the cloud, with automation, alerts, and enhanced operational efficiency.

Protocol converter Gateways

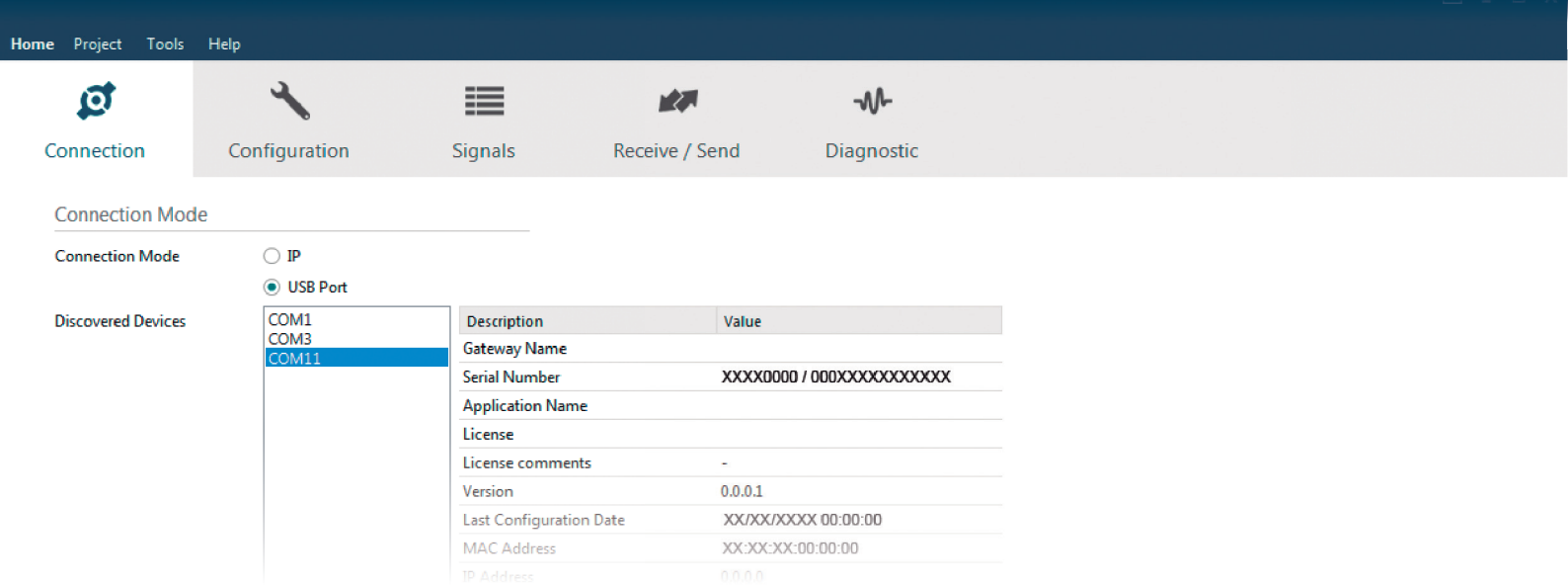
Enabling seamless integration of systems such as lighting, metering, EV chargers, and industrial devices.

Air-to-Water Heat Pump Gateways

Designed to optimize energy use by integrating air-to-water heat pumps into BMS for efficient heating, cooling, and hot water management.

Intesis has the solution for every project

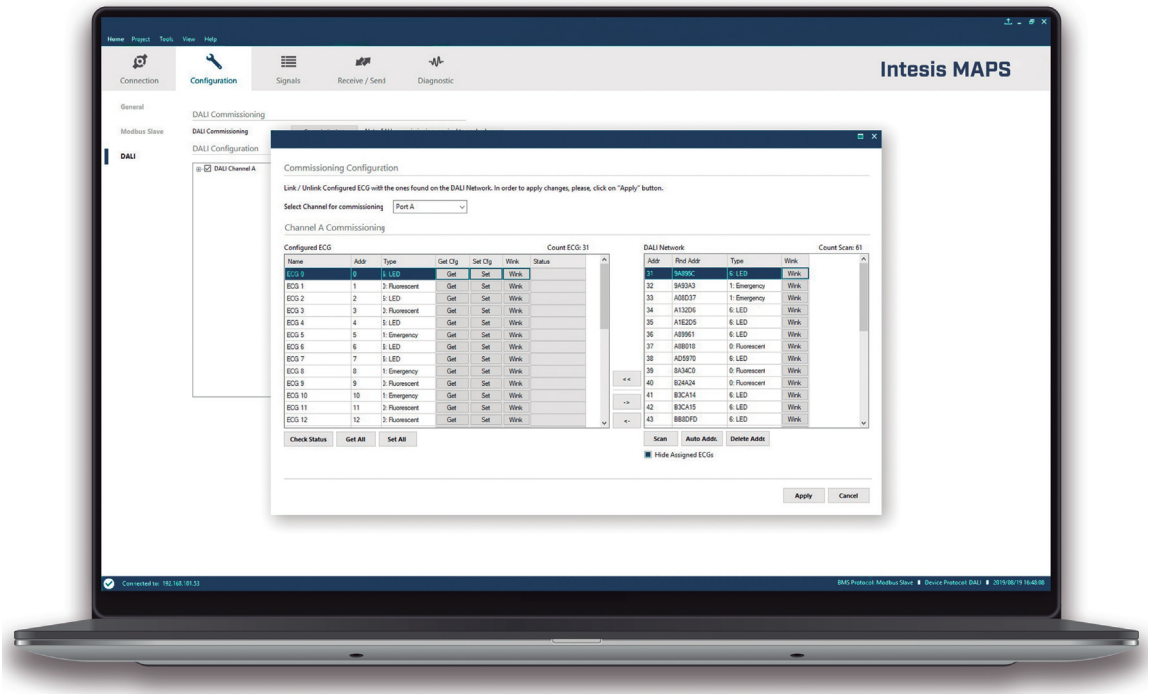
Intesis MAPS — the configuration tool for Intesis products



Intesis MAPS

Is an intuitive configuration tool for all Intesis gateways that helps reducing commisioning time.

Intesis MAPS enables easy configuration offering a simple and consistent way to program all gateways. Upon launching Intesis MAPS, the user selects the right template for the application they need and the configuration procedure can start.



Multi **A**ddressing **P**oint **S**olution

Project templates

For every gateway there is a template providing a step by step setup guide for both protocols in the gateway.

Product templates

Product templates are provided for automatic import of all device data, removing the need for manual work.

Device scan

By using the scanning functionality, users can find devices in the field and import all their data automatically.

Data conversion

Data can be transformed into the desired format, e.g., adjusting offset, scaling or converting from degrees Celsius to Fahrenheit.

Diagnostics

Problems and errors can be detected and solved with Intesis MAPS diagnostics.

Secure and safe configuration

MAPS configuration projects are protected by passwords to prevent unauthorized manipulation of projects and installations.

Recovery

Users can save the gateway configuration project to file for e.g., recovery purposes or in case of gateway replacement.

Update information

The tool informs whenever there is a new software version available for the gateway or Intesis MAPS itself.

Be prepared for the integration process

Get ready to start your project even if you are not off-site

Intesis MAPS offers you the possibility of starting your projects even without the Intesis device. Simply start creating your configuration file from the field devices' manual and/or the BMS or SCADA engineer information.

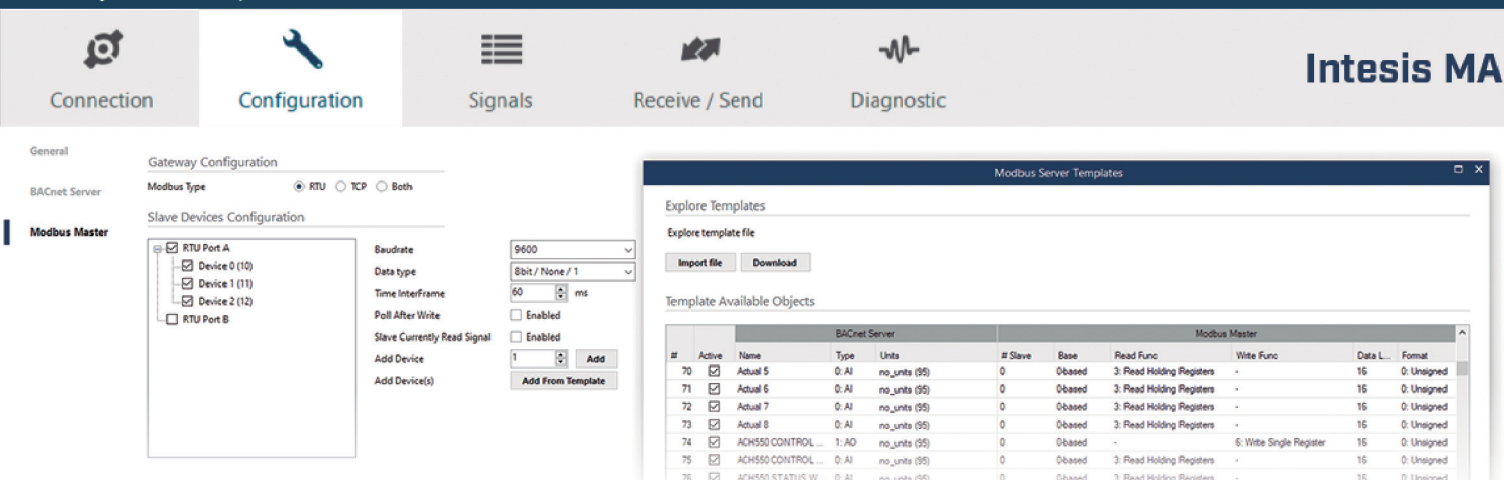
Get everything ready before commissioning

Check your configuration, simulate communications, use our templates, consult our manuals, attend our webinars and get the most of our team experience in a powerful tool. Everything in its right place for a smooth commissioning process.

Template functionality

Thanks to our template functionality you can import already existing templates from third party devices* and include them in your project with a simple click of the mouse. Moreover, you can create your own templates and use them in any of your projects.

* Requires Internet connection.



Fast, save and secure commissioning and troubleshooting

Even if you are not off-site, remote connections are available to the gateway through IP*, which ensures the possibility of testing the project during the commissioning stage. You can also troubleshoot any possible issue you might face from your office.

Save money and time with less travelling

A remote connection drastically reduces the need for travelling since commissioning or troubleshooting can be done from anywhere.

With four simple steps you will be ready to go:

1 Create your configuration project

2 Enable communications

3 Download the configuration

4 Test and/or troubleshoot

*Check with your IT department for more information about external communication configurations.

Perform the commissioning and troubleshooting anywhere

Protocol Converter Gateways

When choosing an Intesis Protocol Translator, you can be sure that you get a ready-to-use product which easily solves the complex task of integrating between building automation protocols.

Protocol Converter Gateways with the latest technology

Intesis Protocol Converter Gateways include the most recent and modern technology, assembled in user-friendly products to facilitate installation, configuration and deployment.

LED indicator matrix

Multiple LED indicators confirm that all protocols are communicating properly or indicate if there is a communication issue.

IP/USB console

Direct and safe access to the configuration via USB or the Ethernet port.

USB host

Configuration can be performed with the USB host port, from downloading projects or generating log files to updating the firmware.

Multiple ports

With multiple ports for the different physical layers (cable/network types), all common connectivity requirements are met.

Design for DIN-rail mounting

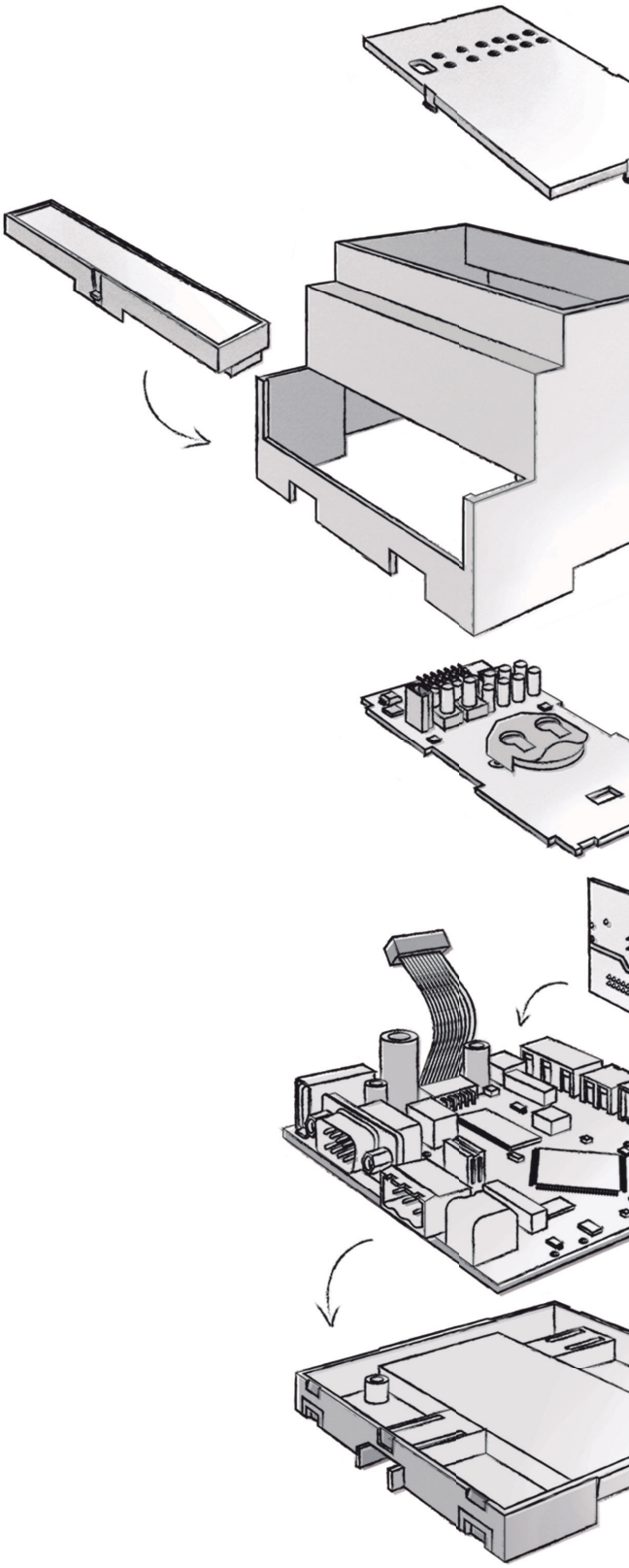
Using just five DIN-Rail modules, it is easy to fit Intesis Protocol Converter Gateways into cabinets.

Low power

The Protocol Converter Gateways are designed for low power consumption for energy efficient operation on-site.

Intesis MAPS Configuration

Powerful configuration of all Intesis Protocol Converter Gateways for a fast and straight-forward commissioning.



ASCII Protocol Converter Gateways

General features for ASCII

Supervision and control of BACnet or KNX devices can be done from an ASCII-based control system using simple ASCII messages over serial (EIA232, EIA485) or TCP/IP interfaces.

- Both ASCII Serial and IP supported
- Custom string signals
- Custom string commands
- Easy integration to any BMS

Application	Order Code	Point Versions
BACnet ▶ ASCII		
BACnet Client to ASCII Server	**IN700485***0000**	**100, 250, 600, 1200, and 3000 P.V.**
KNX ▶ ASCII		
KNX to ASCII Server	**IN701KNX***0000**	**100, 250, 600, 1200, and 3000 P.V.**

BACnet Protocol Converter Gateways

General features for BACnet

Intesis Protocol Converter Gateways for BACnet perform as a BACnet/IP Server or BACnet MS/TP client, allowing BACnet controllers to send subscription requests (COV) to read or write its internal communication objects.

- BTL certified
- BACnet/IP and MS/TP
- BBMD and foreign Device
- Notification Classes

Application	Order Code	P.V. - Point Versions D.V. - Device Versions
KNX ◀▶ BACnet		
KNX to BACnet Server	**IN701KNX***0000**	**100, 250, 600, 1200, and 3000 P.V.**
LonWorks ▶ BACnet		
LonWorks to BACnet Server	**INBACLON***0000**	**100, 250, 600, 1200, and 3000 P.V.**
Modbus ◀▶ BACnet		
Modbus Client to BACnet Server	**IN700485***0000**	**100, 250, 600, 1200, and 3000 P.V.**
DALI ▶ BACnet		
DALI to BACnet/IP and MS/TP Server	**IN703DAL0640000**	**64 D.V.**
DALI to BACnet/IP Server	**IN704DAL1280000**	**128 D.V.**
DALI to BACnet/IP Server	**INBACDAL0640500**	**64 D.V.**
M-Bus ▶ BACnet		
NEW *M-Bus, Modbus, and Digital Pulses to BACnet, Modbus, or KNX*	**IN702MEB***0000**	**10, 20, 60, and 100 Meters**
NEW *M-Bus Meters to BACnet/IP or Modbus TCP networks*	**IN712MEB0*00000**	**20 and 50 Meters**
BACnet ▶ BACnet		
BACnet MS/TP to BACnet/IP Router	**INBACRTR0320000**	**32 D.V.**
PROFINET ◀▶ BACnet		
BACnet - PROFINET Server	**INBACPRT1K20000**	**1200 P.V.**
EtherNet/IP ◀▶ BACnet		
BACnet - EtherNet/IP Server	**INBACEIP1K20000**	**1200 P.V.**

KNX Protocol Converter Gateways

General features for KNX

A Protocol Converter with KNX connects directly to the KNX TP-1 bus carrying the same configuration and operational characteristics as any other KNX device.

- Standard KNX Datapoint Types
- Extended group adresses
- Sending and listening addresses
- Ri flag: Read on initialization flag

Application	Order Code	P.V. - Point Versions D.V. - Device Versions
BACnet ⇔ KNX		
BACnet Client to KNX	**IN701KNX***0000**	**100, 250, 600, 1200, and 3000 P.V.**
Modbus ⇔ KNX		
Modbus Client to KNX	**IN701KNX***0000**	**100, 250, 600, 1200, and 3000 P.V.**
Modbus RTU to KNX	**INKNXMBM1000200**	**100 P.V.**
DALI-2 ⇒ KNX		
DALI-2 to KNX TP PRO Gateway	**INKNXDAL0640300**	**64 D.V.**
M-Bus ⇒ KNX		
NEW *M-Bus, Modbus, and Digital Pulses to BACnet, Modbus, or KNX*	**IN702MEB***0000**	**10, 20, 60, and 100 Meters**

Modbus Protocol Converter Gateways

General features for Modbus

The Modbus Protocol Converter Gateways act as TCP Servers (Ethernet connection) and/or Modbus RTU clients (serial EIA232,EIA485).

- Modbus TCP and RTU simultaneously
- Coils, holding registers and bitfields supported
- Multiple data formats
- Big-endian or Little-endian

Application	Order Code	P.V. - Point Versions D.V. - Device Versions
BACnet ◀▶ Modbus		
BACnet Client to Modbus Server	**IN700485***0000**	**100, 250, 600, 1200, and 3000 P.V.**
KNX ◀▶ Modbus		
KNX to Modbus Server	**IN701KNX***0000**	**100, 250, 600, 1200, and 3000 P.V.**
DALI 2 ▶ Modbus		
DALI to Modbus TCP and RTU Server	**IN703DAL0640000**	**64 D.V.**
DALI to Modbus TCP Server	**IN704DAL1280000**	**128 D.V.**
DALI to Modbus TCP Server	**INMBSDAL0640500**	**64 D.V.**
M-Bus ▶ Modbus		
NEW *M-Bus, Modbus, and Digital Pulses to BACnet, Modbus, or KNX*	**IN702MEB***0000**	**10, 20, 60, and 100 Meters**
NEW *M-Bus Meters to BACnet/IP or Modbus TCP networks*	**IN712MEB0*00000**	**20 and 50 Meters**
Modbus ▶ Modbus		
Modbus RTU to Modbus TCP router	**INMBSRTR0320000**	**32 D.V.**
OCPP ▶ Modbus		
OCPP to Modbus Server	**INMBSOCP***0100**	**1 and 20 Chargers**

AC Gateways

Intesis owns a wide portfolio of reliable interfaces for HVAC control, developed with the support and collaboration of the HVAC makers, certified from the main protocols and for all markets. The interfaces are developed with the goal of reducing buildings energy consumption and improve user's comfort.

Intesis — The right choice for HVAC integration

In 2006, Intesis launched the first certified product to integrate expansion air conditioning units into KNX. Today, after many years of experience and more than 1 million HVAC units integrated around the world, Intesis can offer a wide range of Intesis AC Gateways for integrating air conditioners from major brands into all commonly used building automation protocols.

Energy efficient

HVAC systems account for a major part of the energy costs in a building. With the Intesis AC Gateways , these can be controlled for optimal energy usage, enabling significant savings.

Reliable

All developments are based strictly on AC manufacturers' specifications, with subsequent validation and approval by the AC manufacturers to ensure the right compatibility with their AC units.

Easy to use

Thanks to the smart scanning functionality, connected AC units can be detected automatically.

Trusted

AC Gateways from Intesis are trusted by system integrators all over the world, covering all major protocols needed within building automation.

Intesis AC Gateways — key features

One to one

All the info from one indoor unit directly to one AC Interface.

Multi-unit

Control multiple indoor units from a single AC Interface.

Brand specific products

Specific solutions for all major air conditioning brands.

Direct connection

Save costs by using AC Gateways that connect directly to the AC bus without any intermediate interface devices.

Universal IR solution

Supports any AC brand on the market that uses infrared (IR) remotes.

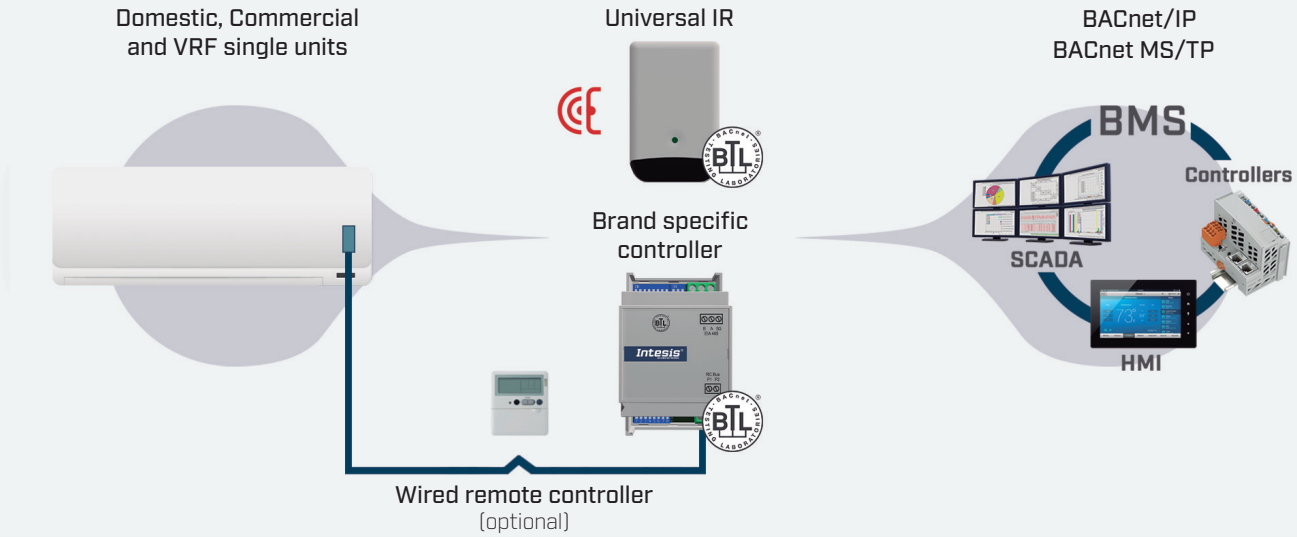
AC units scan

Save configuration time with the powerful scanning functionality.

Our expertise packaged in the best solution for you!

BACnet interfaces for air conditioners

Intesis offers a large portfolio of BACnet interfaces for integration of specific AC brands, supporting both BACnet/IP and BACnet MS/TP integrations with BTL certified solutions.



Specific features for one-to-one solutions

- Fast and easy configuration thanks to a dip switches.
- External power supply is not required since it is powered by the AC unit itself.
- Two types of solutions: Brand specific solutions with direct connections supporting the unit's error code data, and a universal solution based on infrared (IR) communication.

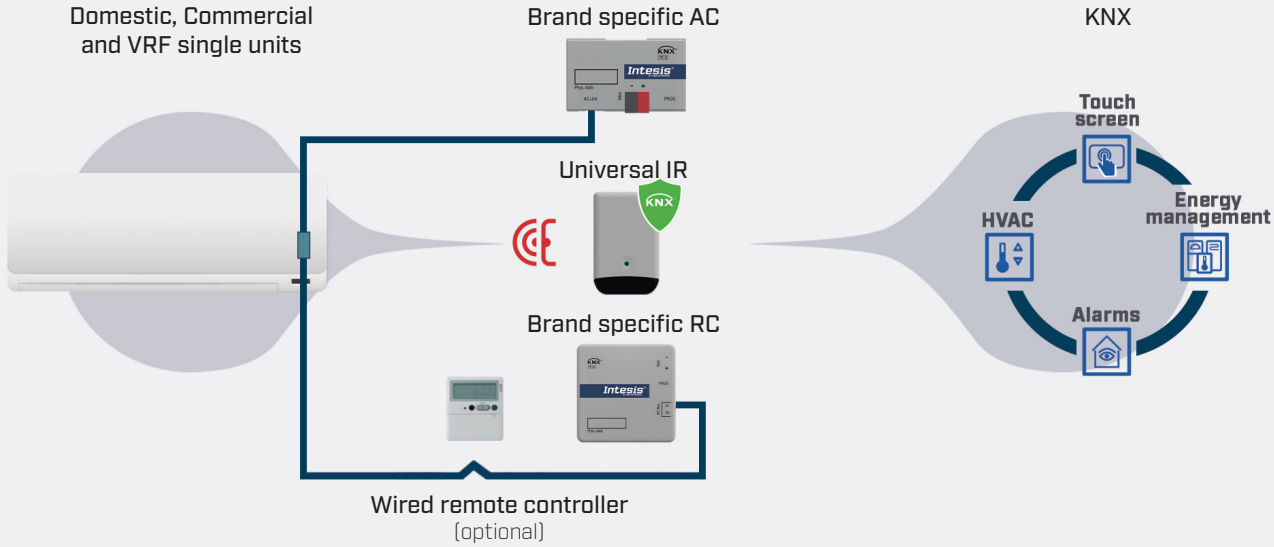
Specific features for multi-unit solutions

- Provides advanced BACnet functions such as notification class, trend logs or calendars.
- Controls all connected units from a single BACnet object.

Application	Order Code	Indoor Units
BOSCH ▶ BACnet		
VRF systems to BACnet/IP or MS/TP	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
DAIKIN ▶ BACnet		
AC Domestic units to BACnet/IP or MS/TP	**INBACDAI001I000**	**1 I.U.**
AC Domestic units to BACnet MS/TP	**IN485DAI001I000**	**1 I.U.**
VRV and Sky systems to BACnet MS/TP	**IN485DAI001R000**	**1 I.U.**
VRV and Sky systems to BACnet/IP or MS/TP	**INBACDAI001R000**	**1 I.U.**
VRV systems to BACnet/IP or MS/TP	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
FUJITSU ▶ BACnet		
RAC and VRF to BACnet MS/TP	**IN485FGL001I000**	**1 I.U.** *(to CN connector)*
VRF systems to BACnet/IP or MS/TP	**IN775FGL***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
Hisense ▶ BACnet		
VRF systems to BACnet/IP or MS/TP	**IN770AIR***O000**	**16 I.U. (S) and 64 I.U. (M)**
HITACHI ▶ BACnet		
VRF systems to BACnet/IP or MS/TP	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
Commercial and VRF systems to BACnet/IP or MS/TP	**INBACHIT001R000**	**1 I.U.**
VRF systems to BACnet MS/TP interface	**IN485HIT001R000**	**1 I.U.**
Midea ▶ BACnet		
Commercial and VRF to BACnet MS/TP	**INBACMID001I100**	**1 I.U.**
Commercial and VRF systems to BACnet/IP or MS/TP	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
MITSUBISHI ELECTRIC ▶ BACnet		
Domestic, Mr.Slim and City Multi to BACnet/IP or MS/TP	**INBACMIT001I000**	**1 I.U.**
Domestic, Mr.Slim and City Multi to BACnet MS/TP	**IN485MIT001I000**	**1 I.U.**
City Multi systems to BACnet/IP or MS/TP	**IN770AIR***O000**	**15 Groups (XXS), 50 Groups (S), 100 Groups (M)**
MITSUBISHI HEAVY INDUSTRIES, LTD. ▶ BACnet		
FD and VRF systems to BACnet/IP or MS/TP	**INBACMHI001R000**	**1 I.U.**
FD and VRF systems to BACnet MS/TP	**IN485MHI001R000**	**1 I.U.**
VRF systems to BACnet/IP or MS/TP	**IN776MHI***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M), 128 I.U. (L)**
Panasonic ▶ BACnet		
Etherea AC units to BACnet/IP or MS/TP	**INBACPAN001I000**	**1 I.U.**
Etherea AC units to BACnet MS/TP	**IN485PAN001I000**	**1 I.U.**
ECOi and PACi systems to BACnet/IP or MS/TP	**INBACPAN001R000**	**1 I.U.**
ECOi and PACi systems to BACnet MS/TP	**INBACPAN001R100**	**1 I.U.**
ECOi, ECOg and PACi systems to BACnet/IP or MS/TP	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
ECOi, ECOg and PACi systems to BACnet/IP or MS/TP	**IN771AIR***O000**	**128 I.U. (L)**
SAMSUNG ▶ BACnet		
NASA commercial units to BACnet MS/TP	**INBACSAM001R100**	**1 I.U.**
NASA VRF systems to BACnet/IP or MS/TP	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
TOSHIBA ▶ BACnet		
VRF and Digital systems to BACnet/IP or MS/TP	**INBACTOS001R000**	**1 I.U.**
VRF and Digital systems to BACnet MS/TP	**INBACTOS001R100**	**1 I.U.**
UNIVERSAL ▶ BACnet		
Universal IR air conditioner to BACnet MS/TP	**IN485UNI001I100**	**1 I.U.**

KNX interfaces for air conditioners

For the last decade, Intesis AC Gateways for KNX have been the reference when it comes to integrate air conditioning systems into KNX projects. Specific solutions are offered for the most popular AC brands, including a universal solution based on infrared communication.



Specific features for one to one solutions

- Supports all required DPT objects to be compatible with all KNX thermostats in the market.
- Binary inputs for window contacts or presence detectors available.
- Two types of solutions: Brand specific solutions with direct connections supporting the unit's error code data, and a universal solution based on infrared (IR) communication.

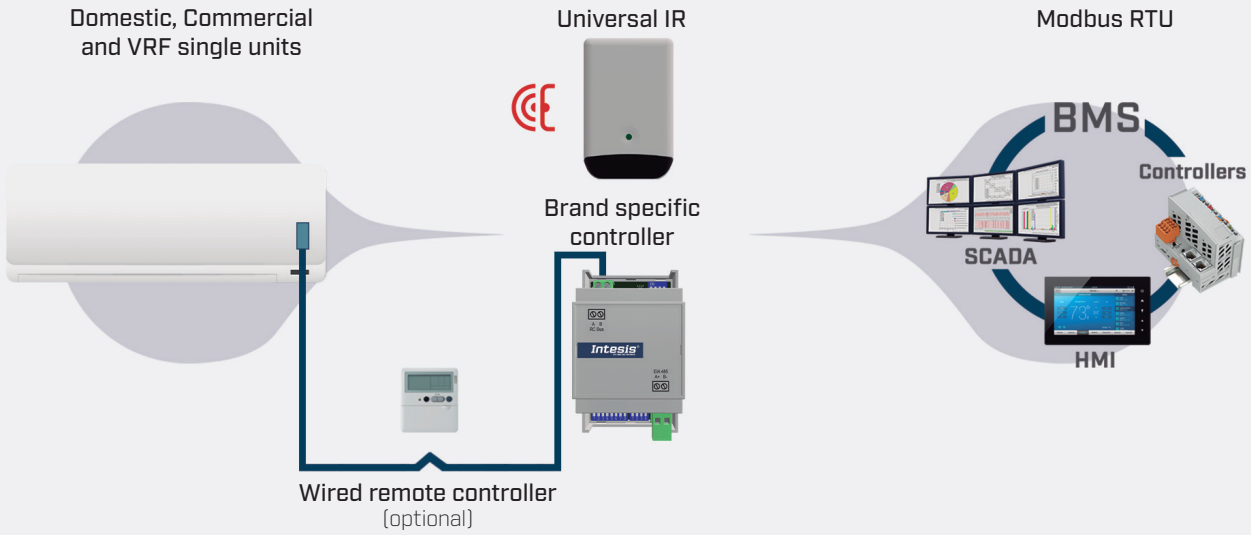
Specific features for multi-unit solutions

- Smooth integration of KNX thermostats thanks to the "virtual temperature" function.
- Covers a wide range of standard DPTs which ensures interoperability with other KNX devices.

Application	Order Code	Indoor Units
BOSCH ▶ KNX		
VRF systems to KNX	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
DAIKIN ▶ KNX		
AC Domestic units to KNX	**INKNXDAI001I000**	**1 I.U.**
	INKNXDAI001I100	**1 I.U. with Binary Input**
VRV and Sky systems to KNX	**INKNXDAI001R000**	**1 I.U.**
	INKNXDAI001R100	**1 I.U. with Binary Input**
VRV systems to KNX	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
FUJITSU ▶ KNX		
RAC and VRF to KNX	**INKNXFGL001I000**	**1 I.U. with B.I.** *(to CN connector)*
RAC and VRF systems to KNX	**INKNXFGL001R000**	**1 I.U. with B.I.** *(to remote controller)*
VRF systems to KNX	**IN775FGL***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
Haier ▶ KNX		
Commercial and VRF systems to KNX	**INKNXHAI***C000	**8, 16, and 64 I.U.**
Hisense ▶ KNX		
VRF systems to KNX	**INKNXHIS001R000**	**1 I.U. with Binary Input**
VRF systems to KNX	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
HITACHI ▶ KNX		
Commercial and VRF systems to KNX	**INKNXHIT001R000**	**1 I.U. with Binary Input**
VRF systems to KNX	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
LG ▶ KNX		
VRF systems to KNX	**INKNXLGE001R000**	**1 I.U. with Binary Input**
VRF systems to KNX	**INKNXLGE***O000**	**16 and 64 I.U.**
Midea ▶ KNX		
Commercial and VRF systems to KNX	**INKNXMID001I000**	**1 I.U.**
Commercial and VRF systems to KNX	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
MITSUBISHI ELECTRIC ▶ KNX		
Domestic, Mr.Slim, and City Multi to KNX	**INKNXMIT001I000**	**1 I.U.**
Domestic, Mr.Slim, City Multi, and Lossnay to KNX	**INKNXMIT001I100**	**1 I.U. with Binary Input**
City Multi systems to KNX	**IN770AIR***O000**	**15 Groups (XXS), 50 Groups (S), 100 Groups**
MITSUBISHI HEAVY INDUSTRIES, LTD ▶ KNX		
FD and VRF systems to KNX	**INKNXMHI001R000**	**1 I.U. with Binary Input**
VRF systems to KNX	**IN776MHI***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M), 128 I.U. (L)**
Panasonic ▶ KNX		
Etherea AC units to KNX unit	**INKNXPAN001I000**	**1 I.U. with Binary Input**
ECOi and PACi systems to KNX	**INKNXPAN001R000**	**1 I.U. with Binary Input**
ECOi, ECOg and PACi systems to KNX	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
ECOi, ECOg and PACi systems to KNX	**IN771AIR***O000**	**128 I.U. (L)**
SAMSUNG ▶ KNX		
NASA VRF systems to KNX	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
TOSHIBA ▶ KNX		
VRF and Digital systems to KNX	**INKNXTOS001R000**	**1 I.U. with Binary Input**
VRF systems to KNX	**INKNXTOS***O000**	**16 and 64 I.U.**
UNIVERSAL ▶ KNX		
NEW *Universal IR air conditioner to KNX TP*	**INKNXUNI001I200**	**1 I.U. with 2 Binary Inputs**

Modbus interfaces for air conditioners

Intesis AC Gateways for Modbus form one of the largest portfolios on the market for integration of air conditioners into Modbus. The consistent Modbus register mapping used for all AC brands helps shortening the integration time in each project.



Specific features for one-to-one solutions

- Consistent register mapping presents a common interface for all AC brands.
- Fast and easy configuration thanks to a dip switch on the product.
- Two types of solutions: Brand specific solutions with direct connections supporting the unit's error code data, and a universal solution based on infrared (IR) communication.

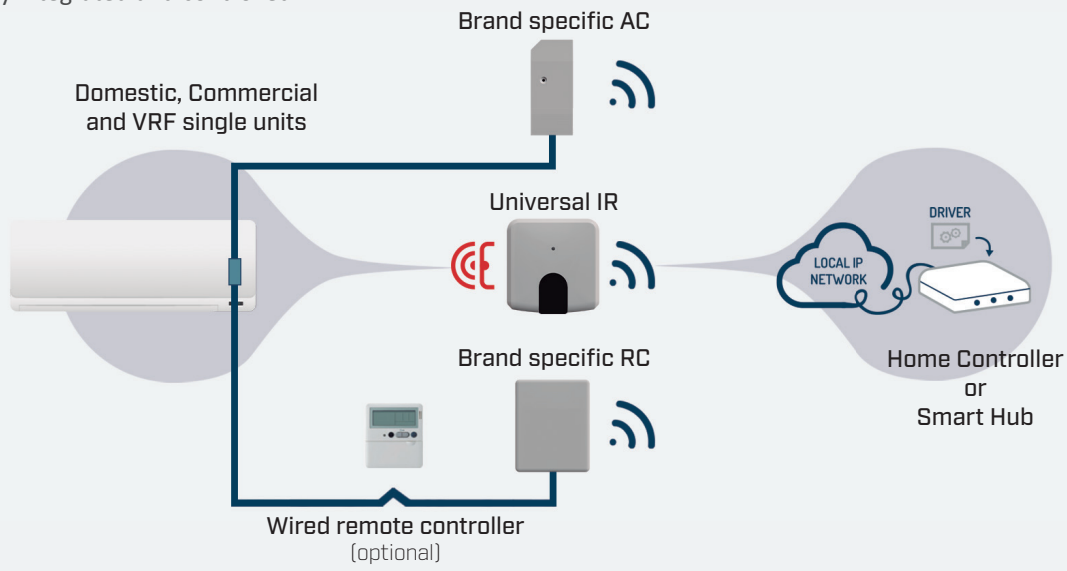
Specific features for multi-unit solutions

- Supports both Modbus RTU and TCP simultaneously.
- Control all connected AC units from a single Modbus register.

Application	Order Code	Indoor Units
BOSCH ▶ Modbus		
VRF systems to Modbus TCP/RTU	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
DAIKIN ▶ Modbus		
AC Domestic units to Modbus RTU	**INMBSDAI001I000**	**1 I.U.**
VRV and Sky systems to Modbus RTU	**IN485DAI001R000**	**1 I.U.**
VRV systems to Modbus TCP/RTU	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
FUJITSU ▶ Modbus		
RAC and VRF systems to Modbus RTU	**INMBSFGL001R000**	**1 I.U.** *(to remote controller)*
	IN485FGL001I000	**1 I.U.** *(to CN connector)*
VRF systems to Modbus TCP/RTU	**IN775FGL***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
Hisense ▶ Modbus		
VRF systems to Modbus RTU	**INMBSHIS001R000**	**1 I.U.**
VRF systems to Modbus TCP/RTU	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
HITACHI ▶ Modbus		
Commercial and VRF systems to Modbus RTU	**IN485HIT001R000**	**1 I.U.**
VRF systems to Modbus TCP/RTU	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
LG ▶ Modbus		
VRF systems to Modbus RTU	**INMBSLGE001R000**	**1 I.U.**
Midea ▶ Modbus		
Commercial and VRF systems to Modbus RTU	**INMBSMID001I000**	**1 I.U.**
Commercial and VRF systems to Modbus RTU	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
MITSUBISHI ELECTRIC ▶ Modbus		
Domestic, Mr. Slim and City Multi lines to Modbus RTU	**INMBSMIT001I000**	**1 I.U.**
City Multi systems to Modbus TCP/RTU	**IN770AIR***O000**	**15 Groups (XXS), 50 Groups (S), 100 Groups**
MITSUBISHI HEAVY INDUSTRIES, LTD. ▶ Modbus		
FD and VRF systems to Modbus RTU	**INMBSMHI001R000**	**1 I.U.**
VRF systems to Modbus TCP/RTU	**IN776MHI***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M), 128 I.U. (L)**
Panasonic ▶ Modbus		
Etherea AC units to Modbus RTU	**INMBSPAN001I100**	**1 I.U.**
ECOi and PACi systems to Modbus RTU	**INMBSPAN001R000**	**1 I.U.**
ECOi, ECOg and PACi systems to Modbus TCP/RTU	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
ECOi, ECOg and PACi systems to Modbus TCP/RTU	**IN771AIR***O000**	**128 I.U. (L)**
SAMSUNG ▶ Modbus		
NASA units to Modbus RTU	**INMBSSAM001R100**	**1 I.U.**
NON-NASA units to Modbus RTU	**INMBSSAM001R000**	**1 I.U.**
NASA VRF systems to Modbus TCP/RTU	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
TOSHIBA ▶ Modbus		
VRF and Digital systems to Modbus RTU	**INMBSTOS001R000**	**1 I.U.**
UNIVERSAL ▶ Modbus		
Universal IR air conditioner to Modbus RTU	**IN485UNI001I100**	**1 I.U.**

Home Automation interfaces for air conditioners

Intesis Home Automation interfaces have been specifically designed for AC integration into Home Automation systems. The communication is based on a simple ASCII protocol that can be easily implemented as a driver in home controllers or smart hubs. With drivers already available from many Home Automation platforms on the market, air conditioning units can be easily integrated and controlled.



Drivers available

Specific features for one-to-one solutions

- Wi-Fi configuration supporting both dynamic or static IPs.
- Auto-discovering of Wi-Fi devices installed in the network.
- Two types of solutions: Brand specific solutions with direct connections supporting the unit's error code data, and a universal solution based on infrared (IR) communication.

Specific features for multi-unit solutions

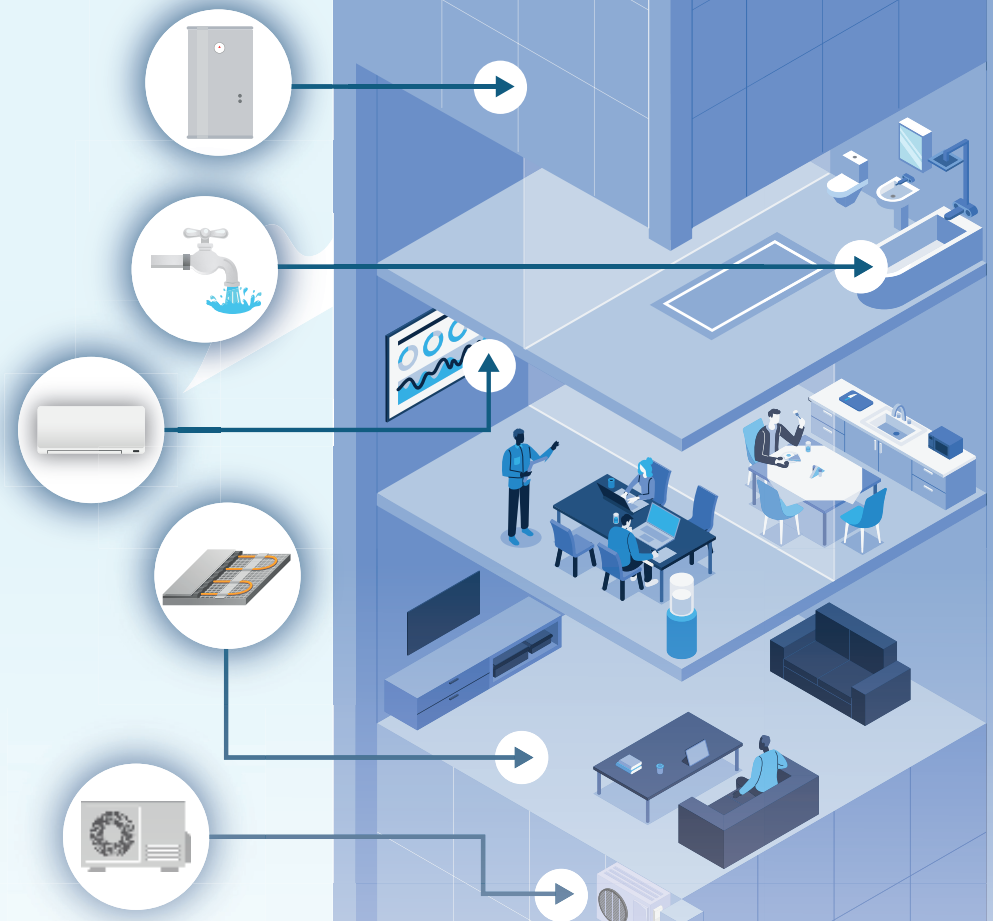
- Integrate up to 128 AC units with a single interface.
- Direct ethernet connection to the home's local IP network.
- All the benefits of having Intesis MAPS as configuration and diagnostic tool.

Drivers available

Application	Order Code	Indoor Units
BOSCH ▸ Home Automation		
VRF systems to Home Automation	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
DAIKIN ▸ Home Automation		
AC Domestic units to Home Automation	**INWMPDAI001I000**	**1 I.U.**
VRV and Sky systems to Home Automation	**INWMPDAI001R000**	**1 I.U.**
VRV systems to Home Automation	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
FUJITSU ▸ Home Automation		
RAC and VRF systems to Home Automation	**INWMPFGL001R000**	**1 I.U.** *(to remote controller)*
	INWMPFGL001I000	**1 I.U.** *(to CN connector)*
VRF systems to Home Automation	**IN775FGL***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
Hisense ▸ Home Automation		
VRF systems to Home Automation	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
HITACHI ▸ Home Automation		
VRF systems to Home Automation	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
LG ▸ Home Automation		
VRF systems to Home Automation	**INWMPLGE001R000**	**1 I.U.**
Midea ▸ Home Automation		
Commercial and VRF systems to Home Automation	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
MITSUBISHI ELECTRIC ▸ Home Automation		
Domestic, Mr.Slim and City Multi to Home Automation	**INWMPMIT001I000**	**1 I.U.**
City Multi systems to Home Automation	**IN770AIR***O000**	**15 Groups (XXS), 50 Groups (S), 100 Groups**
MITSUBISHI HEAVY INDUSTRIES, LTD. ▸ Home Automation		
FD and VRF systems to Home Automation	**INWMPMHI001R000**	**1 I.U.**
Domestic units to Home Automation	**INWMPMHI001I000**	**1 I.U.**
VRF systems to Home Automation	**IN776MHI***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M), 128 I.U. (L)**
Panasonic ▸ Home Automation		
Etherea AC units to Home Automation	**INWMPPAN001I000**	**1 I.U.**
ECOi and PACi systems to Home Automation	**INWMPPAN001R000**	**1 I.U.**
ECOi, ECOg and PACi systems to Home Automation	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
ECOi, ECOg and PACi systems to Home Automation	**IN771AIR***O000**	**128 I.U. (L)**
SAMSUNG ▸ Home Automation		
NASA VRF systems to Home Automation	**IN770AIR***O000**	**4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)**
TOSHIBA ▸ Home Automation		
VRF and Digital systems to Home Automation	**INWMPTOS001R000**	**1 I.U.**
UNIVERSAL ▸ Home Automation		
Universal IR air conditioner to Home Automation	**INWMPUNI001I000**	**1 I.U.**

Air-to-Water Heat Pump Gateways

Air-to-water heat pumps are the most efficient systems for domestic hot water, heating, and cooling in any building. However, its efficiency can be remarkably increased when the air-to-water heat pump system is integrated into a building management system (BMS).



DAIKIN

MITSUBISHI ELECTRIC

HITACHI

Panasonic

LG

SAMSUNG

Get more from your heat pump—with less energy

Intesis' Air-to-Water heat pump gateways bridge heat pump systems with leading Building Management Systems (BACnet, KNX, or Modbus), delivering full interoperability. Facilitate rich monitoring and control enabling access to internal unit variables like flow temperature, compressor status, DHW circuits, fan speeds, alarm codes, and setpoints.

Precise Integration

Specific signals for domestic hot water and climatization ensure an accurate and efficient AW system control.

Fast configuration

DIP switches or user-friendly software tools allow for quick commissioning and troubleshouting.

Reliable performance

Developed and tested in collaboration with the leading manufacturers ensuring total interoperability.

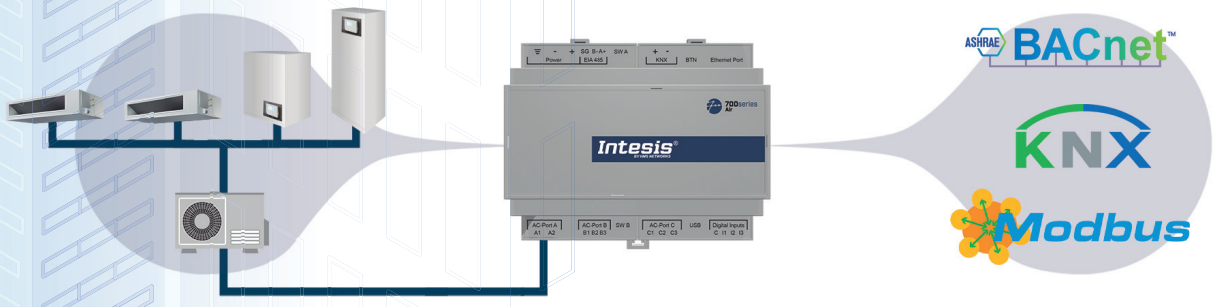
Intesis expertise

Trusted by system integrators worldwide, with a world-class customer service.

One-to-one solutions

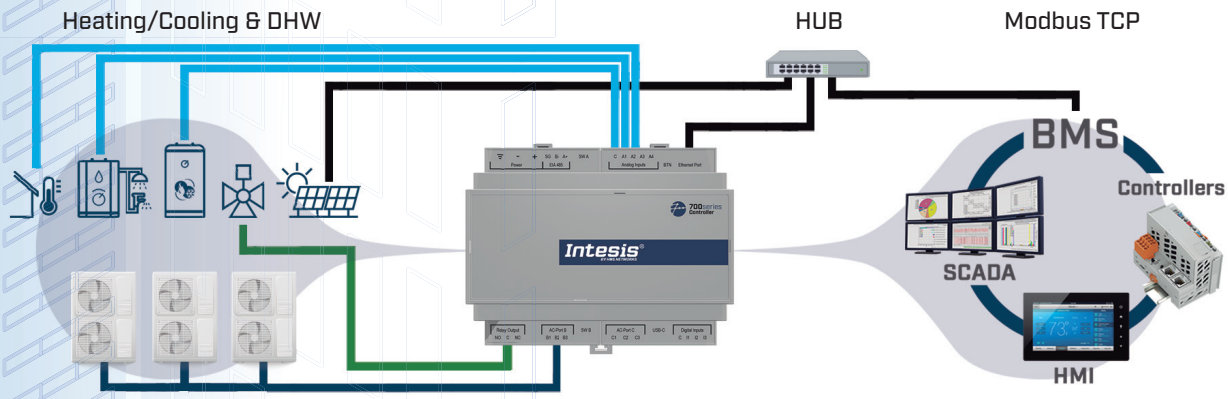
A2W Systems

Multi-unit solutions



VRF & A2W Systems

Cascade Controller



Eco Heating Systems
& VRF Systems (HE/HT)

BACnet Air-to-Water Heat Pump Gateways

General features for BACnet

Intesis gateways for Air to Water systems support BACnet/IP and MS/TP, enabling smooth integration with building automation systems. Acting as BACnet/IP Servers or MS/TP Clients, they allow full control of domestic hot water and climatization features.

- BTL certified
- BACnet/IP and MS/TP
- BBMD and foreign Device
- Notification Classes

Application	Order Code	Indoor Units
DAIKIN → BACnet		
NEW *Daikin Air to Water (Altherma) to BACnet MS/TP*	**IN485DAI001A000**	**1 AW.U.**
Daikin HVAC systems to BACnet/IP or MS/TP	**IN770AIR***O000**	**4 AW.U. (XXS), 16 AW.U. (S), 64 AW.U. (M)**
MITSUBISHI ELECTRIC → BACnet		
NEW *Mitsubishi Air to Water (Ecodan) to BACnet MS/TP*	**IN485MIT001A000**	**1 AW.U.**
City Multi, Ecodan and Lossnay to BACnet/IP or MS/TP	**IN770AIR***O000**	**15 Groups (XXS), 50 Groups (S), 100 Groups (M)**
SAMSUNG → BACnet		
EHS, ERV and DVM to BACnet/IP or MS/TP	**IN770AIR***O000**	**4 AW.U. (XXS), 16 AW.U. (S), 64 AW.U. (M)**

KNX Air-to-Water Heat Pump Gateways

General features for KNX

Intesis gateways for Air to Water systems connect directly to the KNX TP-1 bus, behaving like any native KNX device. This ensures fast integration and reliable communication within KNX-based building automation systems.

- Standard KNX Datapoint Types
- Extended group adresses
- Sending and listening addresses
- Ri flag: Read on initialization flag

Application	Order Code	Indoor Units
DAIKIN ▶ KNX		
Daikin HVAC systems to KNX	**IN770AIR***O000**	**4 AW.U. (XXS), 16 AW.U. (S), 64 AW.U. (M)**
HITACHI ▶ KNX		
Air to Water to KNX	**INKNXHIT001A000**	**1 AW.U.**
LG ▶ KNX		
VRF systems to KNX	**INKNXLGE***O000**	**16 and 64 I.U.**
MITSUBISHI ELECTRIC ▶ KNX		
City Multi, Ecodan and Lossnay to KNX	**IN770AIR***O000**	**15 Groups (XXS), 50 Groups (S), 100 Groups**
Panasonic ▶ KNX		
Air to Water (Aquarea H) to KNX	**INKNXPAN001A000**	**1 AW.U.**
SAMSUNG ▶ KNX		
EHS, ERV and DVM to KNX	**IN770AIR***O000**	**4 AW.U. (XXS), 16 AW.U. (S), 64 AW.U. (M)**

Modbus Air-to-Water Heat Pump Gateways

General features for Modbus

Intesis gateways for Air to Water systems support both Modbus TCP and RTU, enabling easy integration with a wide range of industrial and building automation systems. They act as Modbus TCP Servers over Ethernet and/or Modbus RTU Clients over serial connections.

- Modbus TCP and RTU simultaneously
- Coils, holding registers and bitfields supported
- Multiple data formats
- Big-endian or Little-endian

Application	Order Code	Indoor Units
DAIKIN ▸ Modbus		
NEW *Daikin Air to Water (Altherma) to Modbus RTU*	**IN485DAI001A000**	**1 AW.U.**
Daikin HVAC systems to Modbus TCP/RTU	**IN770AIR***O000**	**4 AW.U. (XXS), 16 AW.U. (S), 64 AW.U. (M)**
MITSUBISHI ELECTRIC ▸ Modbus		
NEW *Mitsubishi Air to Water (Ecodan) to Modbus RTU*	**IN485MIT001A000**	**1 AW.U.**
City Multi, Ecodan and Lossnay to Modbus TCP/RTU	**IN770AIR***O000**	**15 Groups (XXS), 50 Groups (S), 100 Groups**
Panasonic ▸ Modbus		
Air to Water (Aquarea H) to Modbus RTU	**INMBSPAN001A000**	**1 AW.U.**
SAMSUNG ▸ Modbus		
EHS, ERV and DVM to Modbus TCP/RTU	**IN770AIR***O000**	**4 AW.U. (XXS), 16 AW.U. (S), 64 AW.U. (M)**
NEW *Cascade Controller for Samsung Eco Heating Systems (EHS) & VRF Systems (HE/HT)*	**IN780SAM0XSO000**	**8 AW.U. (XS)**

NEW

Experience smarter and sustainable Air-to-Water Heat Pump control with the Intesis Cascade Controller

Based on input from tank sensors, the controller determines which units to activate in order to maintain tank temperatures as close as possible to the desired setpoint, while optimizing overall system efficiency.

With the Intesis Cascade Controller, you unlock the full potential of multi-unit air-to-water heat pump systems.

Precise operation

Ensure indoor comfort by adjusting the heat pump operation based on real-time outdoor and tank temperature data.

Compatibility

Support up to 8 Samsung EHS in cascade - split, monoblock, or hidrokits - that can be combined on the same network.

Group Control, Ready for BMS

Support heating, cooling, and DHW in diverse installations with BMS integration and fallback mechanisms, ensuring future-ready performance.

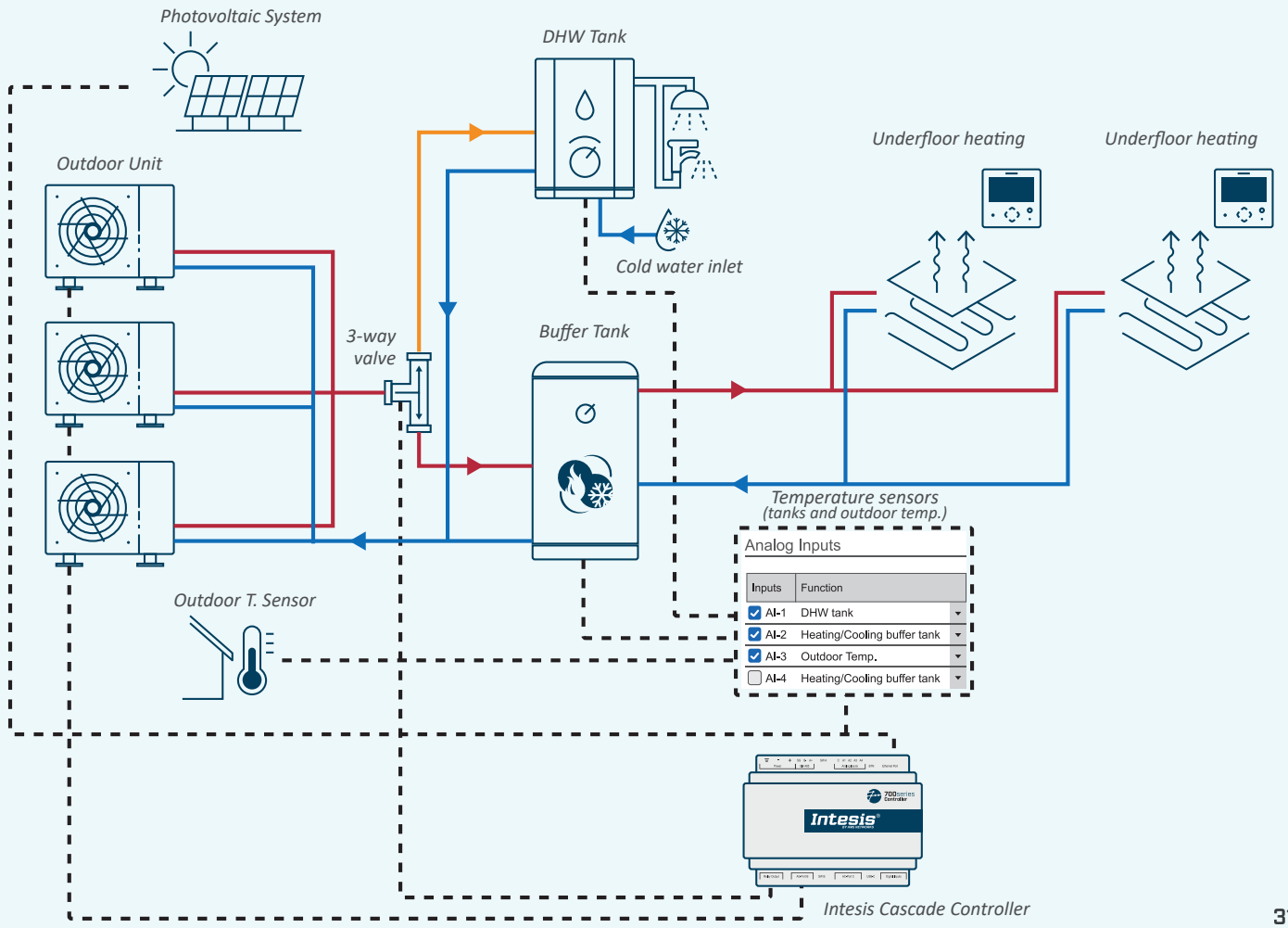
Energy Efficiency

Optimize energy use with adaptive algorithms, heating curves, and photovoltaic (PV) integration, thereby reducing consumption and operational costs.

SAMSUNG ▶ Modbus

NEW	*Cascade Controller for Samsung Eco Heating Systems (EHS) & VRF Systems (HE/HT)*	**IN780SAM0XSO000**	**8 AW.U. (XS)**

Integration Example of a Typical Cascade Controller Installation



*Secondary circuit control is not included

Cloud Control Gateways

Intesis brings extensive experience in developing communication interfaces for HVAC integration, now available on the cloud for convenient remote management. With these platforms, you can easily control and monitor any building from anywhere and at any time.

DAIKIN

MITSUBISHI HEAVY INDUSTRIES, LTD.

FUJITSU

Panasonic

LG

TOSHIBA

Empowering Smart Building Automation

The increasing global adoption of internet technologies has spurred demand in the building automation market for intelligent connectivity solutions.

Intesis meets this demand with their Cloud Control Gateways, enabling customers to securely monitor and control previously unconnected devices from a remote location. These end-to-end solutions are packaged for effortless deployment, encompassing all necessary elements to get started.

Native application

End-user-oriented Android and iOS App for mobile device management.

Web dashboard

Professional web based device management tool developed for real-time control and monitoring of the installation.

Flexible and adaptable

Adaptable Cloud Control Gateways for any project size, need and location, such as residential buildings, schools, bank offices, shops, public buildings and more.

Multi-site projects

Ideal for projects with distributed installations. Allows multiple sites to be controlled from the same dashboard.

User and permission management

Grant access for other users and set permissions based on individual needs.

Quick installation

Easy-to-install devices and intuitive configuration tools for fast project commissioning.

Cloud management leads to increased energy efficiency and cost savings

Intesis AC Cloud Control

AC Cloud Control is an HVAC IoT solution that allows comfortable and intuitive control of air conditioners and heat pumps from a smartphone, tablet, smart watch or from a simple internet browser.

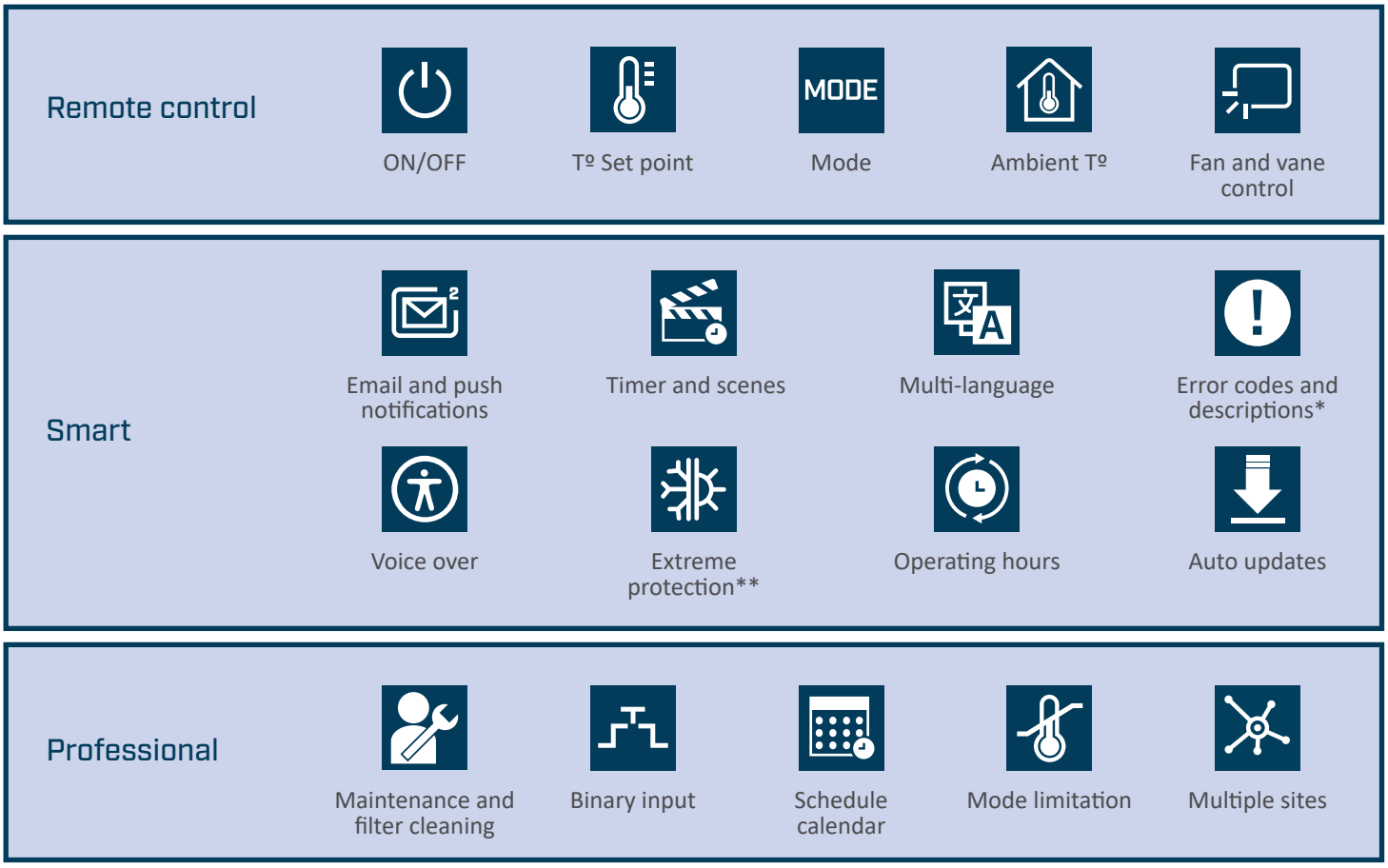
The AC Cloud Control gateways, developed together with the major AC manufacturers, offer cloud connectivity to a wide range of compatible AC units. No cables are needed for cloud connectivity, as the devices use Wi-Fi technology to bring all the data to the cloud.

The bidirectional communication between Intesis devices and the AC unit, ensures the end user can keep using the manufacturers remote controller if desired, while keeping the cloud system updated with the real status of the HVAC units.

The gateways can be managed using a web-based dashboard, so no additional management tool needs to be be installed. User friendly Android and iOS Apps are available.

Control the HVAC system remotely and reduce up to 30% of energy

AC Cloud Control Functionalities



Not available for the Universal IR gateway.

***Available for the INWFIMHI001R100, INWFITOS001R100 and INWFIUNI001I000 products.*

AC Cloud Control main strengths

Multiple brands and multiple sites
Organize any brand and model in three different levels.

Energy saving and maintenance functionalities
Special functionalities to help our customers increase energy efficiency.

Secondary users
Manage who can monitor and control each unit.

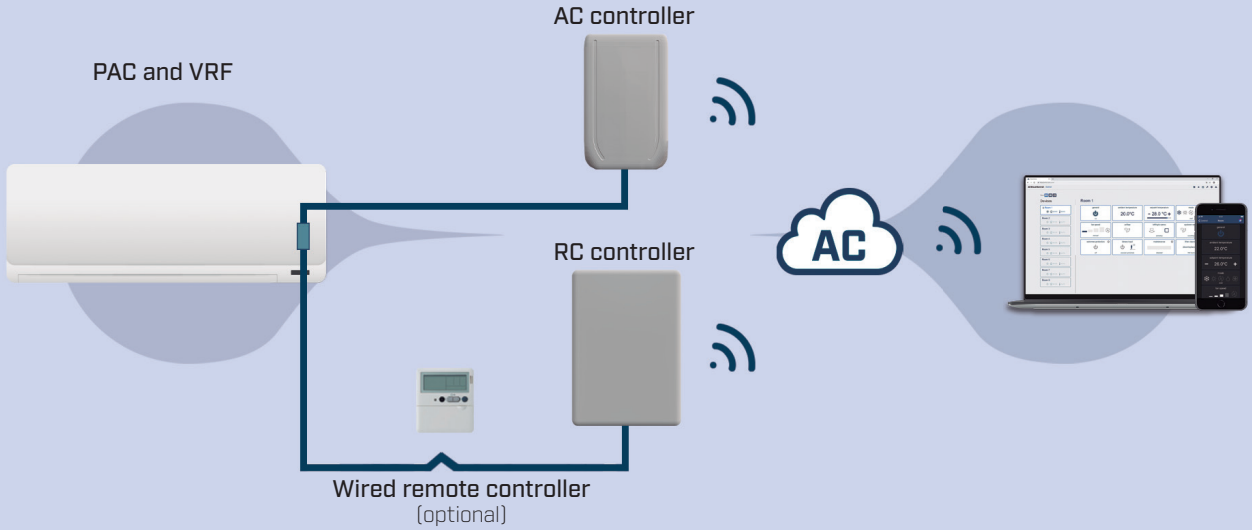
Professional API for 3rd party integration
Connect your system to Intesis Cloud Control Gateways and offer bidirectional HVAC control to your customers.

Email and push notifications
Be aware of everything that happens in your climate system.

OEM projects
Reduce the time to market and maintenance costs, our R&D resources are at your disposal.

Effortless and Secure Remote AC Management

AC Cloud Control devices are designed to enable remote control of air conditioning units through cloud connectivity. These devices use the local Wi-Fi network to establish a reliable data connection, operating at a frequency of 2.4GHz and compatible with b/g/n. The communication between devices is optimized for IoT, ensuring minimal communication issues.



Specific features for brand specific devices

- Devices designed and developed along with the major AC manufacturers, using the proprietary communication protocol of each manufacturer.
- Offers advanced parameters like error signals, error codes, power consumption*.
- Domestic controllers are directly connected to the internal electronic card, and specifically designed for RAC and domestic lines.
- The VRF and commercial interfaces are connected to the HVAC remote control bus, and specifically designed for PAC and VRF.

Specific features for universal controller

- Offers compatibility for thousands of AC models.
- Only requires an indoor unit that has an IR receiver working with a standard wireless infrared remote controller.
- The AC feedback is enabled through the embedded IR receiver.
- Allows using the universal and the manufacturer's controller at the same time.
- The Universal controller is specifically designed for PAC, RAC and VRF.

*Depending on the AC brand.

DAIKIN ▶ AC Cloud Control	Order Code	Indoor Units
AC Domestic units to Wi-Fi (ASCII)	**INWFIDAI001I100**	**1 I.U.**
VRV and Sky systems to Wi-Fi (ASCII)	**INWFIDAI001R100**	**1 I.U.**

FUJITSU ▶ AC Cloud Control		
RAC and VRF systems to Wi-Fi (ASCII)	**INWFIFGL001I100**	**1 I.U.**
	INWFIFGL001R100	**1 I.U.**

LG ▶ AC Cloud Control		
VRF systems to Wi-Fi (ASCII)	**INWFILGE001R100**	**1 I.U.**

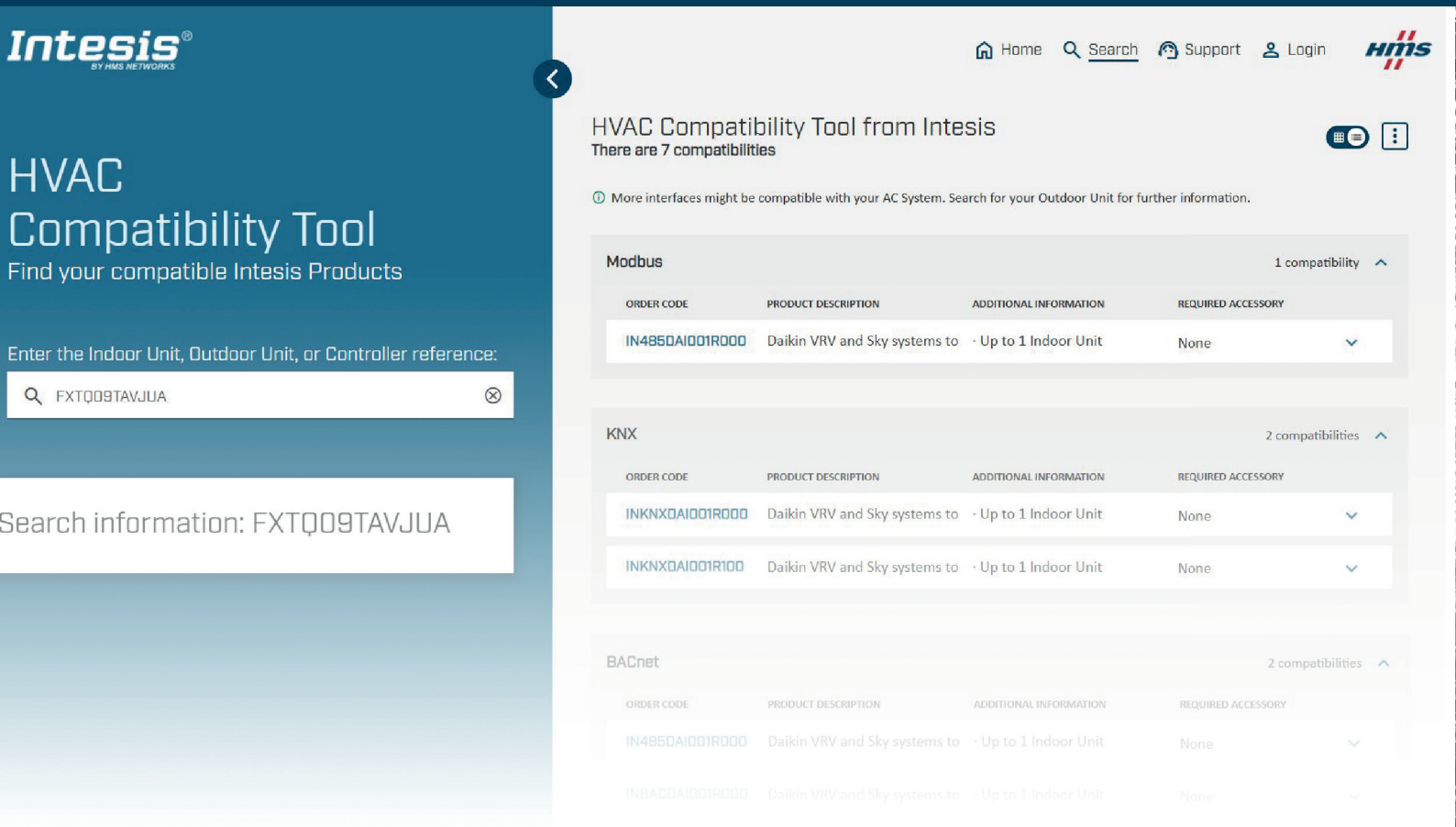
MITSUBISHI HEAVY INDUSTRIES, LTD ▶ AC Cloud Control		
FD and VRF systems to Wi-Fi (ASCII)	**INWFIMHI001I100**	**1 I.U.**
Domestic units to Wi-Fi (ASCII)	**INWFIMHI001R100**	**1 I.U.**

Panasonic ▶ AC Cloud Control		
Etherea AC units to Wi-Fi (ASCII)	**INWFIPAN001I100**	**1 I.U.**
ECOi and PACi systems to Wi-Fi (ASCII)	**INWFIPAN001R100**	**1 I.U.**

TOSHIBA ▶ AC Cloud Control		
VRF and Digital systems to Wi-Fi (ASCII)	**INWFITOS001R100**	**1 I.U.**

UNIVERSAL ▶ AC Cloud Control		
Universal IR air conditioner to Wi-Fi (ASCII)	**INWFIUNI001I000**	**1 I.U. with Binary Input**

More than 2.500 compatible indoor unit models



HVAC Compatibility Tool

The new AC compatibility tool provides a fast and reliable way to check the compatibility of air conditioning units with Intesis interfaces.

Forget the time-consuming task of searching an AC unit's reference into an endless compatibility document. Thanks to the search engine of the new web-based tool, get the answer you are looking for with a click.

Search Engine

Type the first letters of your AC reference and get suggestions to make the search even easier.

Updated information

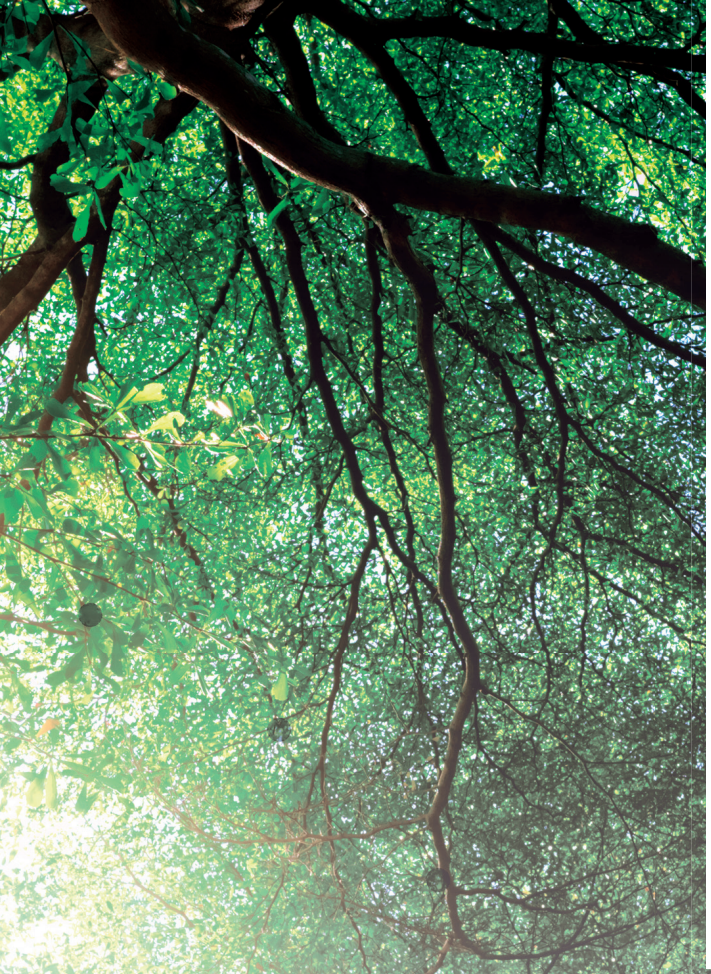
We can ensure updated information thanks to the ease of maintenance of the tool.

Compatible AC units

More than 2500 models already in our database. New units are included every day!

The support behind

Can't you find your AC unit in the database? Send us a request and we will indicate you the best solution for your AC.



Intesis helps you to reduce your carbon footprint

Intesis is committed to reduce the CO_2 emission of air conditioning units by offering the best integration product portfolio.

For more than 20 years, we have provided gateways to control more than 1.5 million air conditioning units around the world. The estimated energy consumption from these units is arownd 2 billion KWh/year. But thanks to our gateways, 1,073 GWh are saved, which means 316,497 tons of CO_2 savings.

This figure is equivalent to the total CO2 that 798,606,956 PCs generate during an hour, or the same that 12.6 million trees absorb in one year.

+1.5 MILLION
AC units under control

CO2 saved by...
12,659,894 trees
in one year

CO2 generated by...
47,238 European people
in a year

CO2 generated by...
798,606,956 PC working
during one hour

CO2 generated by...
484,682 flights
from London to New York

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