Intesis®
BY HMS NETWORKS

Gateways for building automation and HVAC control

Connecting sustainable buildings

HMS

Intesis
connecting buildings

Intesis gateways for building automation cover all relevant standards and technologies, and includes the market's most comprehensive portfolio for HVAC integration with solutions for all major AC-brands.

Robust, reliable and easy to configure, the Intesis product family is widely used for system integration. Users benefit from efficient commissioning and uninterrupted operation.

Intesis by HMS Networks

Intesis is part of HMS Networks, market leader in solutions for industrial communication and the Industrial Internet of Things, IIoT. Intesis is the HMS' main brand for Building Automation products and solutions. Other markets from HMS are Manufacturing, Power, Energy, Transportation, Infrastructure and Logistics.

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.

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.

100% tested
Every product is tested on premises to ensure the highest quality standards.

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.

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.

No matter what building automation protocol or AC brand,

Network Gateways

BACnet, KNX, Modbus, DALI, M-Bus, ASCII, PROFINET, LonWorks, OCPP, EtherNet/IP — are all supported by Intesis Network Gateways. With cutting edge technology built on a reliable platform, integration solutions are offered for all your needs.

HVAC Gateways

Developed with the support and collaboration of the air conditioning manufacturers, Intesis HVAC Gateways enable high quality integration of climate systems into BACnet, KNX, Modbus, and 2,4 GHz wireless installations.
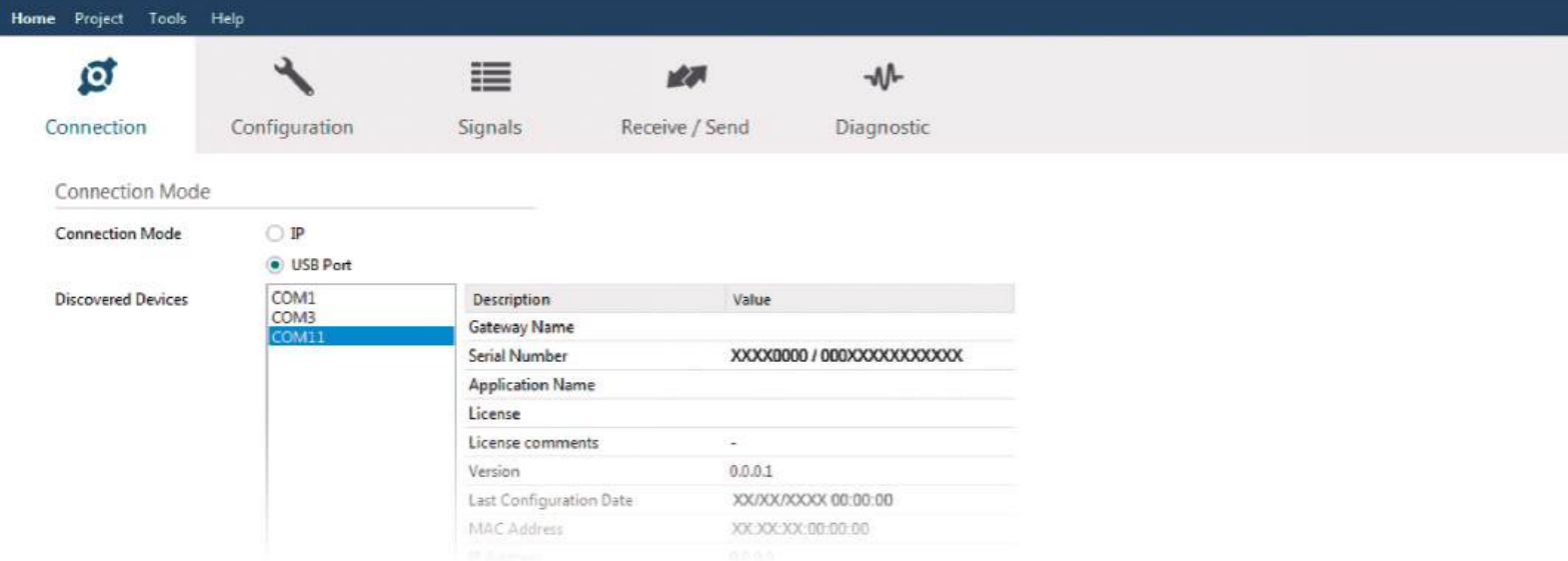
Cloud solutions

Intesis long experience of Building Automation protocols and communication solutions for HVAC integration brought to the cloud for straight-forward remote device 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.
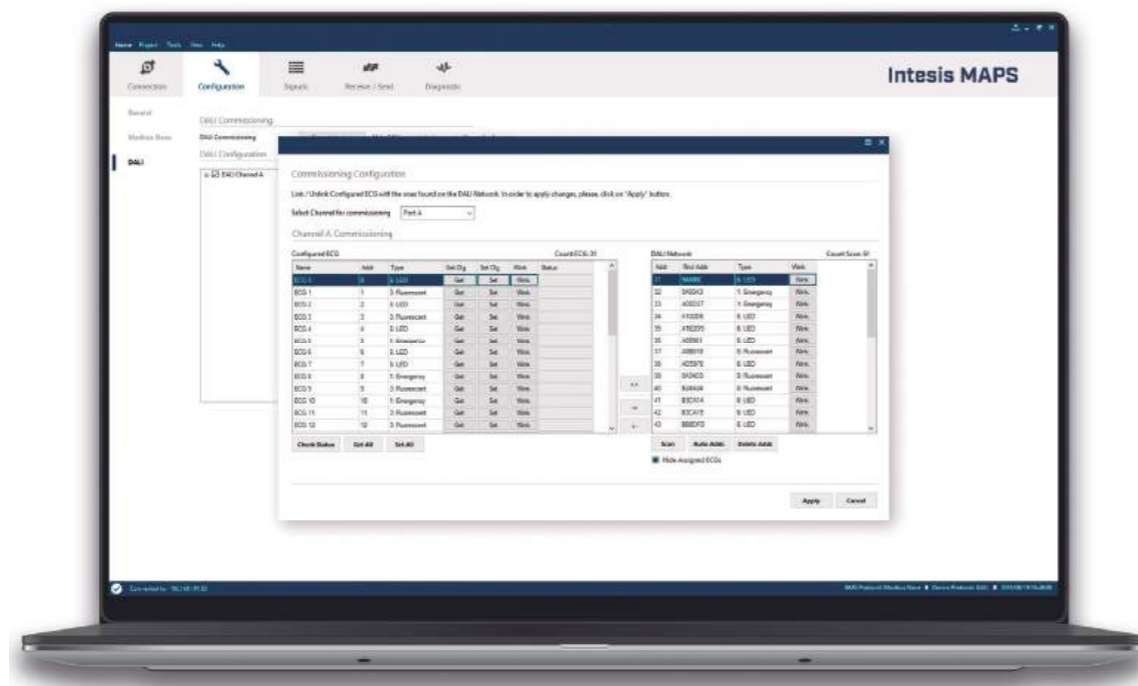
Update information
The tool informs whenever there is a new software version available for the gateway or Intesis MAPS itself.

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.
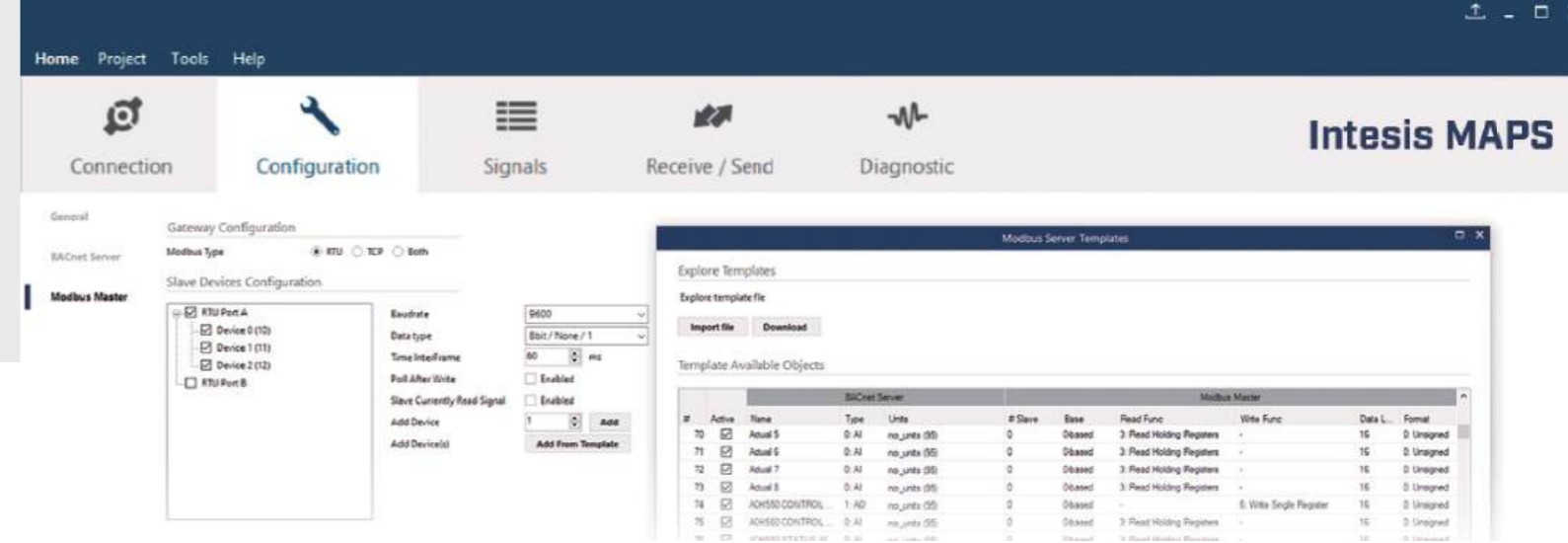
Fast, save and secure commissioning and troubleshooting

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

Network 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.

ASCII

LonWorks

ASHRAE BACnet™

M-Bus

DALI 2

Modbus

EtherNet/IP™

OCPP

KNX

PROFINET®

Network Gateways with the latest technology

Intesis Network 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 Network Gateways into cabinets.
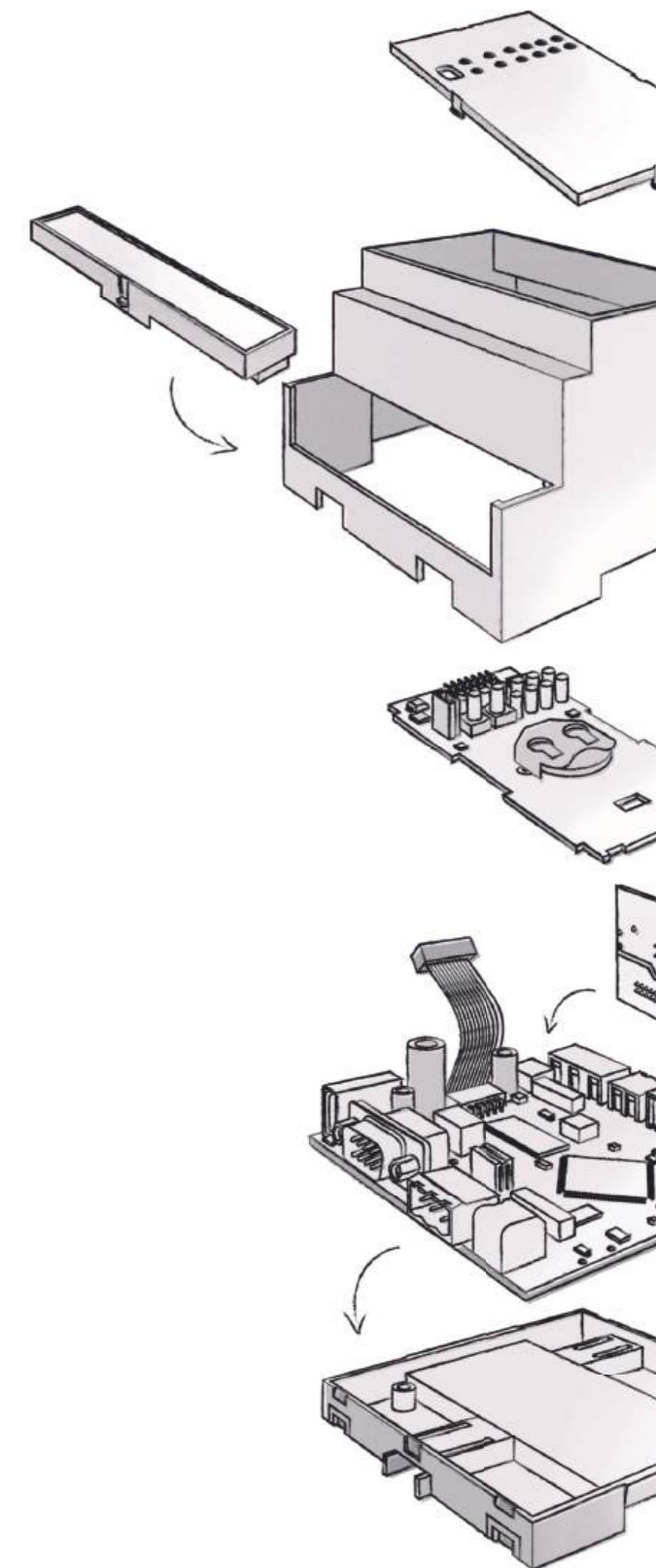
Low power
The Network Gateways are designed for low power consumption for energy efficient operation on-site.

Intesis MAPS Configuration
Powerful configuration of all Intesis Network Gateways for a fast and straight-forward commissioning.

Gateways for Building Automation

Available applications

700 Series
Intesis platforms for multi-protocol selection

700 Series is the platform concept for Intesis Network Gateways.
This concept enables interfaces for multiple Building Automation protocols in the same hardware so, the user can pair the combination using Intesis MAPS. The process is called late configuration.

Benefits

- Reduced number of references to stock, optimizing distributor's lead times.
- Late configuration.
- Change applications quickly with our configuration tool Intesis MAPS.
- Diagnostic and troubleshooting tools available.
- Minimize technical service requests.

Product features

Stock-Friendly
Multiple protocol combinations for each hardware.

Versatility
Flexible and agile protocol translation.

User-friendly configuration
Easy to set up with Intesis MAPS, our user-friendly configuration tool.

High capacity
Up to 3000 data points of capacity to best match your needs.

Certification
International and local certifications. Ready to be sold worldwide

Adapt your gateways to each project needs

Having different protocols available on the same hardware, enable multiple integration possibilities. Each one of the combinations is defined as an application.
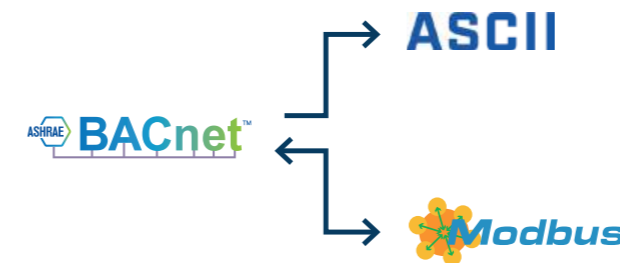
Intesis MAPS, the configuration tool for Network Gateways, is the instrument to select the correct application to match your project's needs. Is an easy process you don't need to plan in advance.

700series for Network Gateways

IN700485*0000**
Intesis Protocol Translator with Serial and
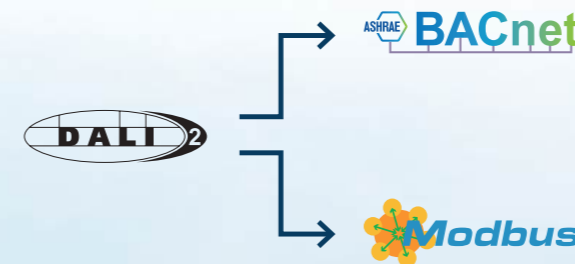IP support - 100, 250, 600, 1200, and 3000 Points

IN701KNX*0000**
Intesis Protocol Translator with KNX, Serial and
IP support - 100, 250, 600, 1200, and 3000 Points

IN703DAL064000
Intesis DALI-2 Protocol Translator with Serial
and IP support - 1 DALI Channel

IN704DAL1280000
Intesis DALI-2 Protocol Translator with
IP support - 2 DALI Channels

ASCII Network 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 Network Gateways

General features for BACnet

Intesis Network Gateways for BACnet perform as a BACnet/IP Server or BACnet MS/TP slave, 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 2 ▶ 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		
M-Bus to BACnet/IP and MS/TP Server	INBACMEB***0000	10, 20, 60, and 120 D.V.
M-Bus to BACnet/IP Server	INBACMEB0*00100	20 and 50 D.V.
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 Network Gateways

General features for KNX

A Protocol Translator 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		
M-Bus to KNX	INKNXMEB***0000	10, 20, 60, and 120 D.V.

Modbus Network Gateways

General features for Modbus

The Modbus Network Gateways act as TCP Servers (Ethernet connection) and/or Modbus RTU slaves (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		
M-Bus to Modbus TCP and RTU Server	INMBSMEB***0000	10, 20, 60, and 120 D.V.
M-Bus to Modbus TCP Server	INMBSMEB0*00100	20 and 50 D.V.
Modbus ▶ Modbus		
Modbus RTU to Modbus TCP router	INMBSRTR0320000	32 D.V.
OCPP ▶ Modbus		
OCPP to Modbus Server	INMBSOCP***0100	1 and 20 Chargers

HVAC 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.

BOSCH

Midea®

DAIKIN

MITSUBISHI ELECTRIC

FUJITSU

MITSUBISHI HEAVY INDUSTRIES, LTD.

Haier

Panasonic

Hisense

SAMSUNG

HITACHI

TOSHIBA

LG

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 HVAC 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 HVAC Gateways, these can be controlled for optimal energy usage, enabling significant savings.

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

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.

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

Intesis HVAC 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 HVAC 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.

+1.5 MILLION
AC units under control

Our expertise packaged in the best solution for you!

700 Series Air
Intesis common platform for HVAC integration

700 Series Air is the platform concept for Intesis HVAC Gateways.
This concept enables interfaces for multiple HVAC Brands and Building Automation protocols in the same hardware so, the user can pair the combination using Intesis MAPS. The process is called late configuration.

Benefits

- Match your hardware with your HVAC system application with just a few clicks.
- Exchangeable AC brands and system Protocols combinations.
- Common configuration tool for all of them: Intesis MAPS.
- Hardware series for the major AC manufacturers and standard protocols in the market.
- Enable energy efficiency functions by calculating the individual consumption of each indoor unit.

Product features

Stock-Friendly
All the possible combinations in one product.

3 Binary Inputs
For Energy Saving purposes.

User-friendly configuration
Easy to set up with Intesis MAPS, our user-friendly configuration tool.

High capacity
Up to 128 indoor units depending on the model.

Certification
International and local certifications. Ready to be sold worldwide

Match the brand with the communication protocol

Having different HVAC brands and Building Automation protocols available on the same hardware, enable multiple integration possibilities. Each HVAC to protocol combination is defined as an application.

Intesis MAPS is the configuration tool that will allow you to select the correct application and match your project's needs. Is an easy process you don't need to plan in advance.

700series for HVAC Gateways Air

IN770AIR*O000**
Intesis multi-brand AC Interface with KNX,
Serial and IP support. Available licenses: XXS, S and M
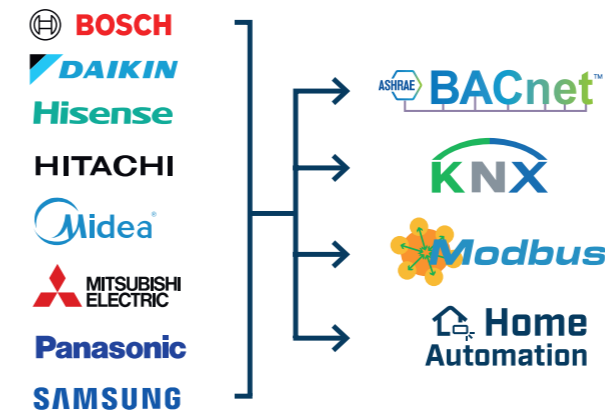
IN771AIR*O000**
Intesis multi-brand AC Interface with KNX,
Serial and IP support. Available licenses: L

IN776MHI*O000**
Mitsubishi Heavy Industries VRF with KNX,
Serial and IP support. Available licenses: XXS, S, M and L

IN775FGL*O000**
Fujitsu AC interface with KNX,
Serial and IP support. Available licenses: XXS, S and M

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.

Domestic, Commercial and VRF single units

Universal IR
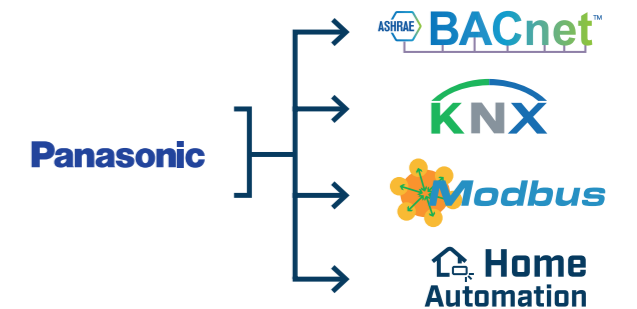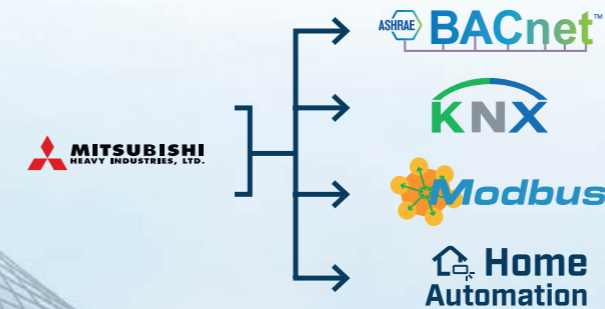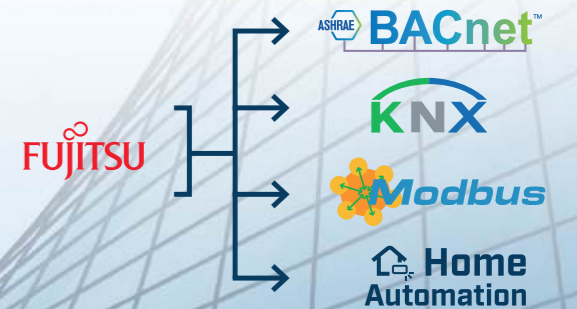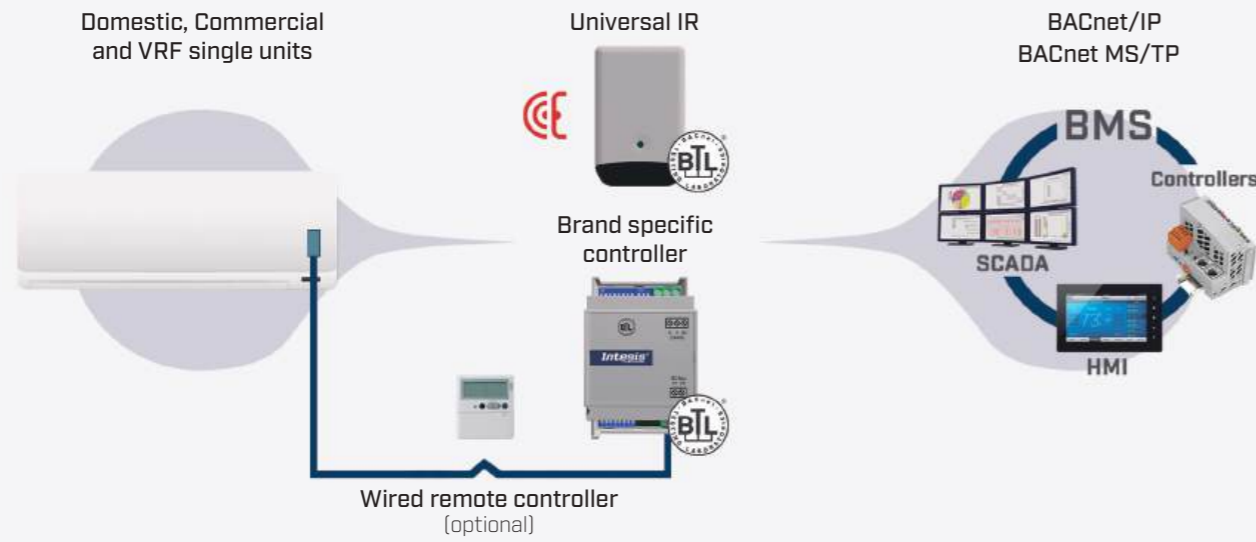
Brand specific controller

Wired remote controller
(optional)

**BACnet/IP
BACnet MS/TP**

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.
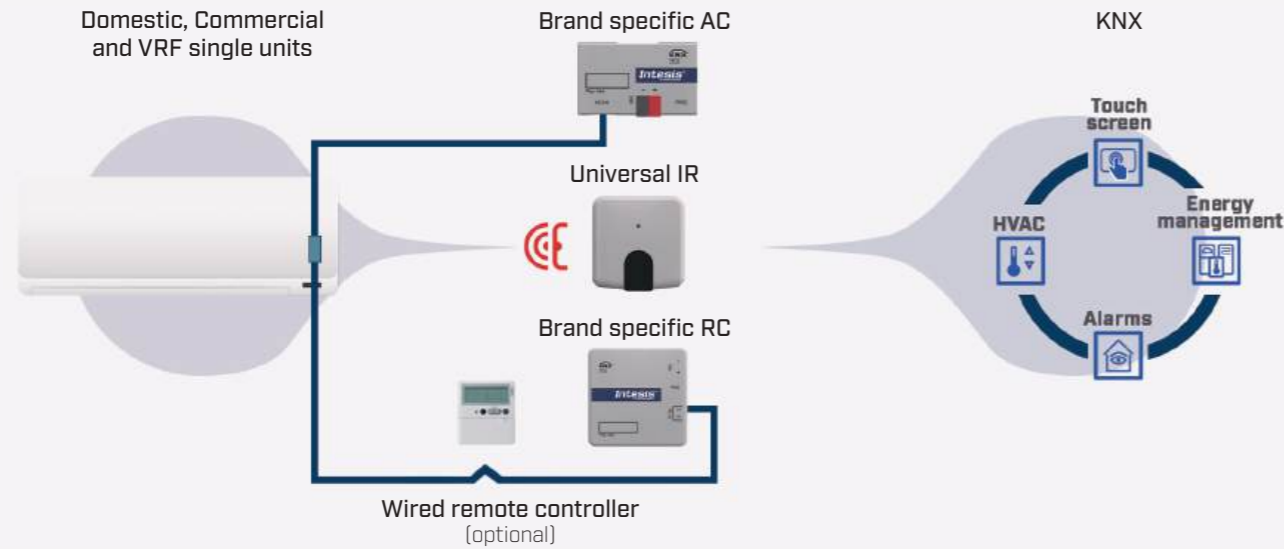
Specific features for multi-unit solutions

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

VRF systems

BOSCH ▶ BACnet	Order Code	Indoor Units
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.
VRF 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 VRF systems to BACnet/IP or MS/TP	IN770AIR***O000	4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)
NASA commercial units to BACnet MS/TP	INBACSAM001R100	1 I.U.

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 HVAC 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.

Domestic, Commercial and VRF single units
Brand specific AC
Universal IR
Brand specific RC
Wired remote controller (optional)
KNX
Touch screen
HVAC
Energy management
Alarms

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.

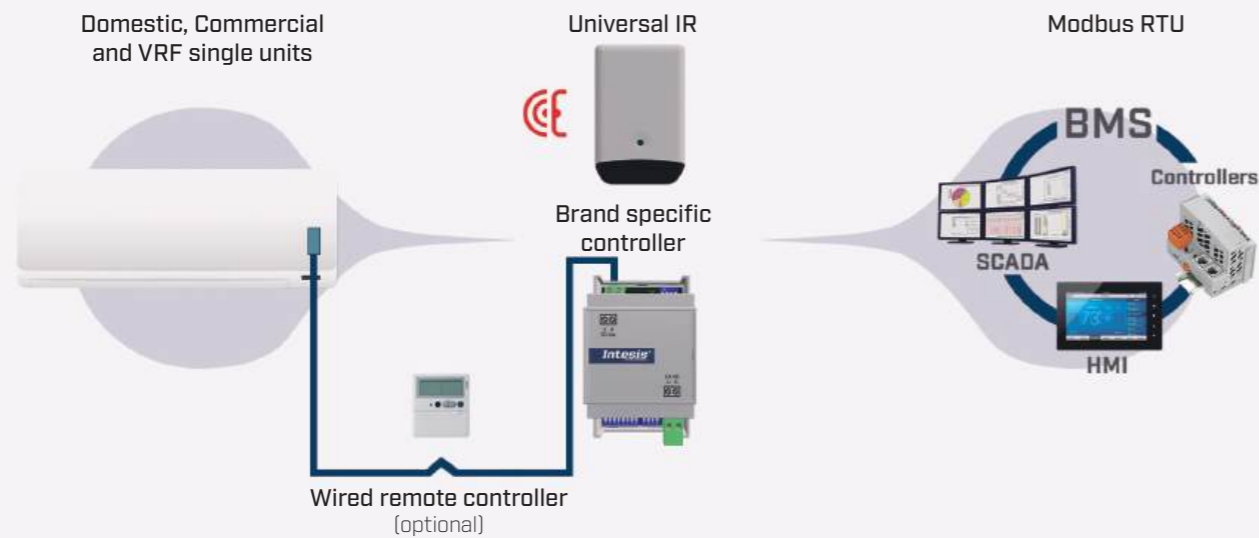## Specific features for multi-unit solutions

- 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.

VRF systems
KNX
Touch screen
HVAC
Energy management
Alarms

	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
VRF 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)
Air to Water to KNX	INKNXHIT001A000	1 I.U.
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	IN770AIR***O000	4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)
Commercial and VRF systems to KNX	INKNXMID001I000	1 I.U.
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
Air to Water (Aquarea H) to KNX	INKNXPAN001A000	1 I.U.
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		
Universal IR air conditioner to KNX	INKNXUNI001I000	1 I.U. with 2 Binary Inputs

Modbus interfaces for air conditioners

Intesis HVAC 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.

Domestic, Commercial and VRF single units

Universal IR

Brand specific controller

Modbus RTU

Wired remote controller (optional)

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.
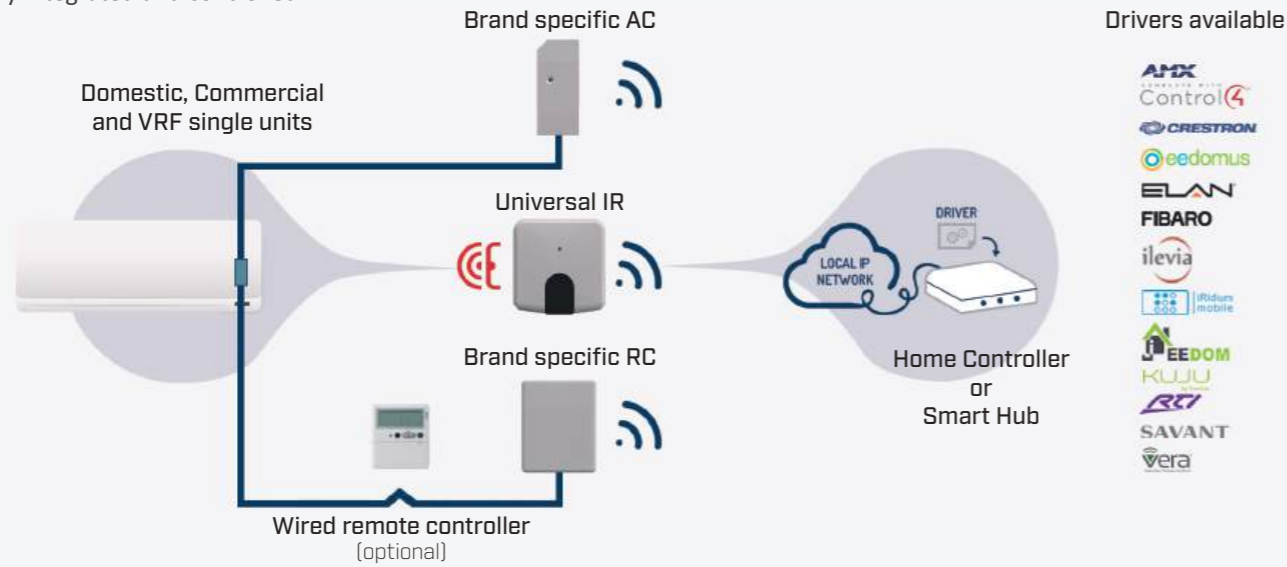
Specific features for multi-unit solutions

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

VRF systems

Modbus TCP
Modbus RTU

BOSCH ▶ Modbus	Order Code	Indoor Units
NEW 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.
NEW VRV and Sky systems to Modbus RTU	IN485DAI001R000	1 I.U.
NEW VRF 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.
NEW 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.
NEW 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		
NEW Commercial and VRF systems to Modbus RTU	IN770AIR***O000	4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)
Commercial and VRF systems to Modbus RTU	INMBSMID001I000	1 I.U.

MITSUBISHI ELECTRIC ▶ Modbus		
Domestic, Mr. Slim and City Multi lines to Modbus RTU	INMBSMIT001I000	1 I.U.
NEW 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.
NEW 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.
Air to Water (Aquarea H) to Modbus RTU	INMBSPAN001A000	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.
NEW NASA VRF systems to Modbus TCP/RTU	IN770AIR***O000	4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)
NON-NASA units to Modbus RTU	INMBSSAM001R000	1 I.U.

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.

Brand specific AC

Domestic, Commercial and VRF single units

Universal IR

Brand specific RC

Wired remote controller (optional)

Home Controller or Smart Hub

Drivers available

- AMX
- Control4
- CRESTRON
- eedomus
- ELAN
- FIBARO
- ilevia
- iRidium mobile
- EEDOM
- KUJU
- RTI
- SAVANT
- vera

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.

VRF systems

Home Controller or Smart Hub

Drivers available

- AMX
- Control4
- CRESTRON
- eedomus
- ELAN
- FIBARO
- ilevia
- iRidium mobile
- EEDOM
- KUJU
- RTI
- SAVANT
- vera

BOSCH ▶ Modbus	Order Code	Indoor Units
NEW VRF systems to Modbus TCP/RTU	IN770AIR***O000	4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)

DAIKIN ▶ Home Automation	Order Code	Indoor Units
AC Domestic units to Home Automation	INWMPDAI001I000	1 I.U.
VRV and Sky systems to Home Automation	INWMPDAI001R000	1 I.U.
NEW VRF systems to Modbus TCP/RTU	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)
NEW VRF systems to Home Automation	IN775FGL***O000	4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)

Hisense ▶ Home Automation		
NEW VRF systems to Home Automation	IN770AIR***O000	4 I.U. (XXS), 16 I.U. (S), 64 I.U. (M)

HITACHI ▶ Home Automation		
NEW 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		
NEW 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.
NEW 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.
NEW 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.
NEW 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		
NEW 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.

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.

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

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

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 10 years, we have provided gateways to control more than 1 million air conditioning units around the world. The estimated energy consumption from these units is more than 1,7 billion KWh/year. But thanks to our gateways, 509 million kWh are saved, that means 150 million on Kg CO_2 savings.

This figure is equivalent to the total CO_2 that 652 million PCs generate during an hour, or the same than 6 million trees absorb in one year.

More than 1 MILLION AC integrated

CO2 saved by...
6,000,000 trees
in one year

CO2 generated by...
23,438 European people
in a year

CO2 generated by...
652,173,913 PC working
during one hour

CO2 generated by...
340,909 flights
from London to New York

Cloud Solutions

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.

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 solutions powered by HMS Hub™, 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 solutions 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.
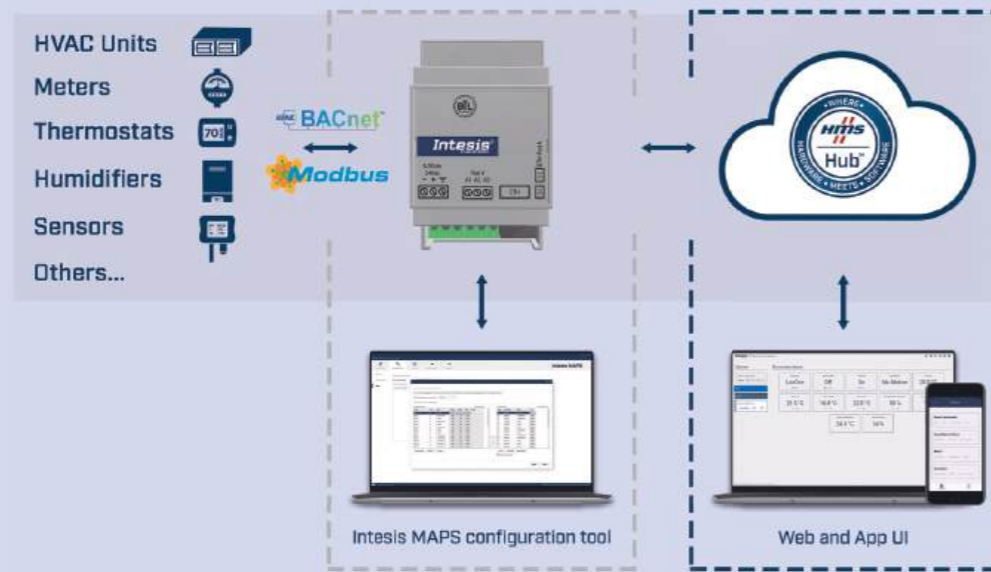
Quick installation
Easy-to-install devices and intuitive configuration tools for fast project commissioning.

Cloud management leads to increased energy efficiency and cost savings

Intesis ST Cloud Control

Intesis MAPS configuration tool — Web and App UI

Intesis ST Cloud Control is an HMS cloud-based solution which enables easy monitoring and control of any BACnet or Modbus device by using our end user oriented App and web based dashboard.

Users simply need to install the ST Cloud Control gateway in the desired location and use Intesis MAPS for PC-based configuration. Here, the widgets can be created (e.g., Booleans, Operating Modes, Dimmers, Analog Values, Error Signals, etc.), mapping them with the BACnet objects or Modbus registers of choice.

Once the gateway is configured and assigned to a user, all devices and widgets will appear automatically in the App and web interfaces, presented in a dashboard. Each user is allowed to create their own customized dashboards, in which devices and widgets can be renamed and reorganized according to personal preferences.

Manage and control any BACnet or Modbus device from an App or web interface

With ST Cloud Control you are able to connect all types of BACnet or Modbus devices to the cloud, for an intuitive and centralized remote device management through an App or a web interface using a common dashboard.

Gateway features
- BACnet/IP or MS/TP or Modbus TCP/RTU connectivity.
- Up to 32 devices can be connected to each gateway.
- Up to 12 widgets per device.
- Easy device configuration using Intesis MAPS.

Next level service
- Industrial grade connectivity now for Building Automation.
- Fast and scalable real time edge connectivity over HMS Hub™.
- Full data control and protection.
- Secure and remote updates during the application lifetime.

System Features
- Monitor and control all devices in an intuitive way.
- Comes with a native iOS and Android App and a web interface.
- Create scenes and interact with multiple concurrent devices.
- Weekly calendar that shows the daily planned installation commands.
- Notifications keep you updated about system status.
- Device sharing and user permissions management.
- Multiple site management from a common dashboard.
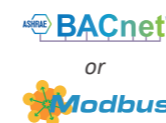
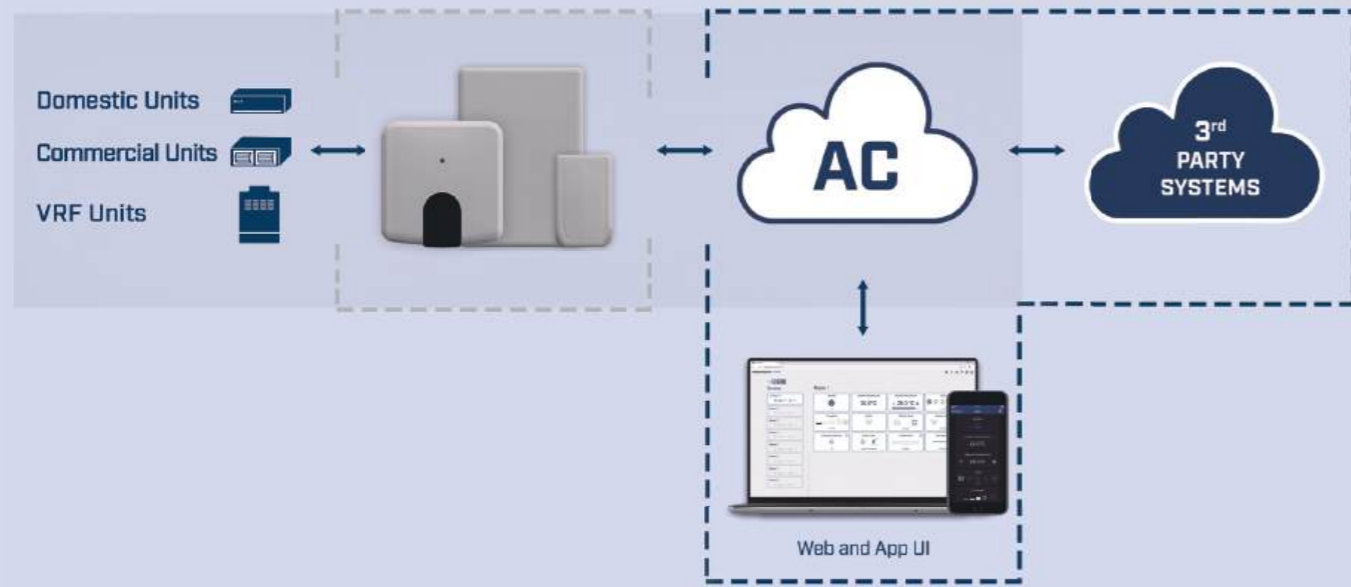| BACnet or Modbus	ST Cloud Control	Order Code	Device Versions
BACnet or Modbus		INSTCMBG***0000	4, 8, 16, and 32 D.V.

Make conventional BACnet or Modbus devices smart with Intesis ST Cloud Control

Intesis AC Cloud Control

Web and App UI

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

| Remote control	ON/OFF	Tº Set point	Mode	Ambient Tº	Fan and vane control
Smart	Email and push notifications	Timer and scenes	Multi-language		Error codes and descriptions*
	Voice over	Extreme protection**	Operating hours		Auto updates
Professional	Maintenance and filter cleaning	Binary input	Schedule calendar	Mode limitation	Multiple sites

*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 Solutions 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.

PAC and VRF

AC controller

RC controller

Wired remote controller
(optional)
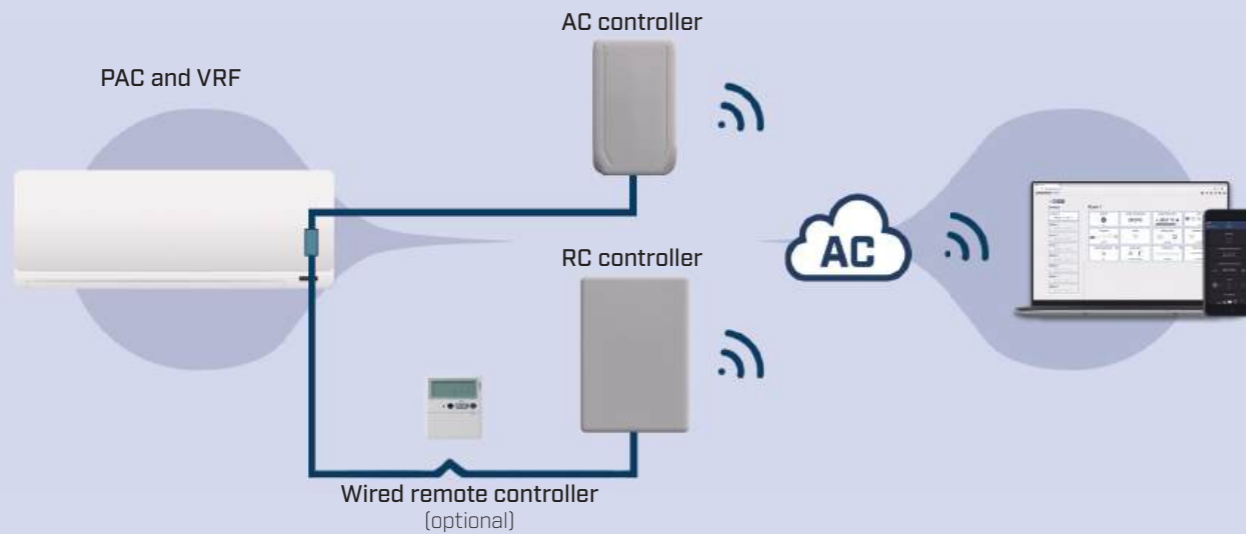
Specific features for brand specific devices

- 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.

PAC, RAC and VRF

Universal IR

*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

Work with HMS.
The number one choice for Industrial Information & Communication Technology.

HMS Networks - Contact

HMS is represented all over the world.
Find your nearest contact here:

www.hms-networks.com/contact-us
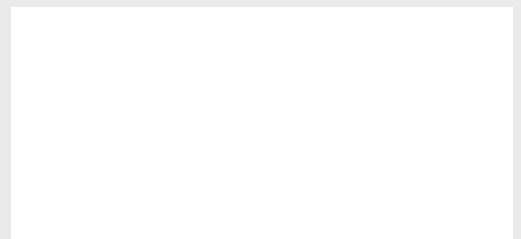
HMS

www.hms-networks.com/intesis