Gateway solutions for building and home integration

Protocol Translators
Air Conditioning Interfaces
Cloud Solutions
Intesis - connecting buildings and homes

The market-leading portfolio of Intesis gateways for building and home automation covers all relevant standards and technologies, including the market’s most comprehensive portfolio for HVAC integration with solutions for all major AC-brands.

Highly reliable, robust, easy-to-configure and install, the Intesis Protocol Translators and AC interfaces are widely used for system integration. Users benefit from efficient commissioning and uninterrupted operation in the system.

Intesis by HMS Networks

In 2016, Intesis was acquired by HMS Networks, market leader in solutions for industrial communication and the Industrial Internet of Things, IIoT. The Intesis brand is HMS central brand for Building Automation products and solutions. The other main markets for 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 communication and the IIoT. HMS is “Connecting Devices” for a more productive and sustainable world. Our solutions enable our customers to expand their businesses globally.

Employees: > 600
Locations: in 16 countries
Distributors: > 50 countries
Brands: Anybus, Ewon, Intesis, Ixxat
Customers: Device manufacturers, machine builders, system integrators, end users
Year founded: 1988

High quality standards for Intesis products

Intesis products are subject to different tests and certifications to ensure the highest quality standards. Also, additional tests are implemented for specific markets.

100% tested
Every single product manufactured by Intesis is tested 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.
Protocol Translators

BACnet, KNX, Modbus, DAQ, M-Bus, ASCII, PROFINET, LonWorks, and more. All of them are supported by the Intesis protocol translators. With cutting edge technology built on a reliable platform, integration solutions are offered for all your needs.

Modern buildings include equipment from many different vendors that need to communicate in highly advanced networks.

System integrators, BMS vendors, HVAC manufacturers and professionals in the automation market all over the world have one thing in common - they trust Intesis products in their building automation integration projects.

Air Conditioning Interfaces

Developed with and for all major Air Conditioner manufacturers, Intesis AC interfaces enable high quality integration of climate systems into BACnet, KNX, Modbus, and 2.4 GHz wireless installations.

Cloud Solutions

Intesis deep experience in Building Automation protocols and communication solutions for HVAC integration brought to the cloud for straight-forward remote device management.

No matter what building automation protocol or AC brand...

...Intesis has the communication solution!
Protocol Translators with the latest technology

Intesis protocol translators 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**
Selectable configuration via USB or IP ports.

**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.

**Slim DIN-rail mounting**
Consuming just 5 DIN-Rail modules, it is easy to fit Intesis protocol translators into cabinets.

**Low powered solution**
The protocol translators are designed for low power consumption for energy efficient operation on site.

Global connectivity enabled!

When choosing an Intesis protocol translator, you can be sure that you get a ready to use product which solves the complexity of integrating between building automation protocols.
Intesis MAPS enables fast navigation to a working configuration.

Intesis MAPS supports easy configuration of all possible protocol combinations available in the Intesis protocol translator portfolio, offering a simple and consistent way to program all your devices, regardless of the protocols used. Upon launching MAPS, the user selects the right template for the protocol translator and the configuration procedure can start.

Intesis MAPS provides device templates which import data automatically. Conversions such as scaling and offset are supported to allow the desired data transformation. MAPS also enables advanced diagnostics and troubleshooting by the user.

- **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 into 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 MAPS itself.

Intesis MAPS

Powerful configuration of all Intesis protocol translators for a fast and straight-forward commissioning.
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

BACnet protocol translators

ORDER CODE | POINT VERSION
--- | ---
INASCBAC6000000 | 600 P.V.
INASCBACX3000000 | 3000 P.V.

ASCII protocol translators

ORDER CODE | POINT VERSION
--- | ---
INASCKNX6000000 | 600 P.V.
INASCKNX3000000 | 3000 P.V.

General features for BACnet

An Intesis protocol translator for BACnet acts as a BACnet/IP Server or BACnet MSTP slave, allowing BACnet controllers to perform subscription requests (COV) and reads/writes to its internal points.

- BTL certified
- BACnet IP and MSTP
- BBMD and Foreign Device
- Notification Classes

BACnet protocol translators

ORDER CODE | POINT VERSION
--- | ---
INBACKNX1000000 | 100 P.V.
INBACKNX2500000 | 250 P.V.
INBACKNX6000000 | 600 P.V.
INBACKNX1K2000000 | 1200 P.V.
INBACKNX3K0000000 | 3000 P.V.

ASCII protocol translators

ORDER CODE | POINT VERSION
--- | ---
INASCBAC6000000 | 600 P.V.
INASCBACX3000000 | 3000 P.V.
General features for KNX
- Standard KNX Datapoint Types
- Extended group addresses
- Sending and listening addresses
- Ri flag: Read on initialization flag

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

KNX protocol translators

<table>
<thead>
<tr>
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<td>INKXBC3K00000</td>
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Modbus protocol translators

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<tr>
<td>INMBSC25000000</td>
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<td>INMBSC60000000</td>
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<tr>
<td>INMBSC1K200000</td>
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</tbody>
</table>
Intesis - the right choice for HVAC integration

In 2006, Intesis launched the first certified product able to directly integrate expansion Air Conditioner units into KNX. Today, after many years of experience gained and more than half a million AC units integrated all over the world, a very broad range of Intesis AC Interfaces is offered for integration of Air Conditioners from major brands into all commonly used building automation protocols.

Intesis AC interfaces - key features

Energy efficient
HVAC systems account for a major part of the energy costs in a building. With the Intesis AC interfaces 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 interfaces from Intesis are trusted by System Integrators all over the world, covering all major protocols needed within Building Automation.

Air Conditioning Interfaces
The Intesis Air Conditioning interfaces form a portfolio of highly reliable interfaces for Air Conditioning integration, developed in collaboration with all major AC manufacturers. Take a look at the world’s most comprehensive portfolio of AC interfaces for integration into KNX, Modbus, BACnet and WiFi.

Intesis AC interfaces - 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 interfaces 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 MSTP integrations with BTL certified solutions.

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**Specific features for one to one solutions**
- Fast and easy configuration thanks to a dip switch on the product.
- External power supply is not required since it is powered by the AC unit itself.

**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.

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**Daiikin**
- AC Domestic units to BACnet/IP/MSTP
- VRF and Sky systems to BACnet IP/MSTP

**Hisense**
- VRF systems to BACnet IP/MSTP

**Hitachi**
- VRF systems to BACnet IP/MSTP

**Midea**
- VRF systems to BACnet IP/MSTP

**Panasonic**
- VRF and Digital systems to BACnet IP/MSTP

**Samsung**
- NASA VRF systems to BACnet IP/MSTP

**Toshiba**
- VRF and Digital systems to BACnet IP/MSTP

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**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.
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 in most of the interfaces.

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.

KNX interfaces for Air Conditioners
For the last decade, Intesis AC interfaces for KNX have been the reference when it comes to integrating 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
- Consistent register mapping presents a common interface for all AC brands.
- Fast and easy configuration thanks to a dip switch on the product.

Specific features for multi-unit solutions
- Supports both Modbus RTU and TCP simultaneously.
- Control all connected AC units from a single Modbus register.

Modbus interfaces for Air Conditioners
Intesis AC interfaces 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.
General features for WiFi

- WiFi configuration supporting both dynamic or static IPs.
- Drivers available for all major Home Automation manufacturers.
- Easy and open protocol generation of new integration drivers.
- Auto-discovering of WiFi 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.

WiFi interfaces for Air Conditioners

Intesis WiFi 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.

<table>
<thead>
<tr>
<th>Brand</th>
<th>ORDER CODE</th>
<th>POINT VERSION</th>
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<tbody>
<tr>
<td><strong>DAIKIN</strong></td>
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<tr>
<td>AC Domestic units to WiFi (ASCII)</td>
<td>INWMPDA001000</td>
<td>1 I.U.</td>
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<tr>
<td>VRF and Sky systems to WiFi (ASCII)</td>
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<td>1 I.U.</td>
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<td>FUTJITSU</td>
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<td></td>
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<tr>
<td>RAC and VRF systems to WiFi (ASCII)</td>
<td>INWMPFGL0011000</td>
<td>1 I.U. (to remote controller)</td>
</tr>
<tr>
<td></td>
<td>INWMPFGL0011000</td>
<td>1 I.U. (to CN connector)</td>
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<tr>
<td><strong>LG</strong></td>
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<td>VRF systems to WiFi (ASCII)</td>
<td>INWMPLED0011000</td>
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<td><strong>MITSUBISHI ELECTRIC</strong></td>
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<td><strong>ELETTROVIA</strong></td>
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<td>FD and VRF systems to WiFi (ASCII)</td>
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<td><strong>Panasonic</strong></td>
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<td><strong>TOSHIBA</strong></td>
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<td><strong>UNIVERSAL</strong></td>
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<td>Universal IR Air Conditioner to WiFi (ASCII)</td>
<td>INWMPUN0011000</td>
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</table>
Intesis deep experience in Building Automation protocols and communication solutions for HVAC integration brought to the cloud for straightforward remote device management. Control and monitor anything, anywhere and anytime.

**Cloud Solutions**

Driven by the fast adoption of internet technologies globally, demand is growing in the building and home automation markets for smart cloud-based device connectivity solutions.

With Intesis Cloud Solutions powered by HMS Hub™, customers are able to perform secure remote cloud-based monitoring and control of previously non-connected devices. Packaged as easy-to-deploy end-to-end solutions, Intesis Cloud Solutions include all needed elements to get you going!

- **Native application**
  End user oriented Android and iOS native app for on-hand 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.

- **Distributed 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.
Intesis ST Cloud Control is a cloud based solution from HMS which enables easy monitoring and control of any BACnet or Modbus device from an end user oriented app and a web based dashboard.

Users simply 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 own, customized dashboards, in which devices and widgets can be renamed and reorganized to personal preference.

Intesis ST Cloud Control uses HMS Hub™ for communication between connected devices and the the cloud interface. HMS Hub is an industrially proven edge connectivity solution by HMS Networks, which is now also brought to the building management arena to ensure safe and secure transformation of information.

Make conventional BACnet or Modbus devices smart with Intesis ST Cloud Control
Work with HMS. 
The number one choice for industrial communication and IIoT.

HMS Networks - Contact

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

www.hms-networks.com/contact