

Introduction to Intesis HMS Building Automation Solutions

Dácil Mata

Intesis Brand Development Manager



Hardware Meets Software™

The Building Automation specialist within HMS

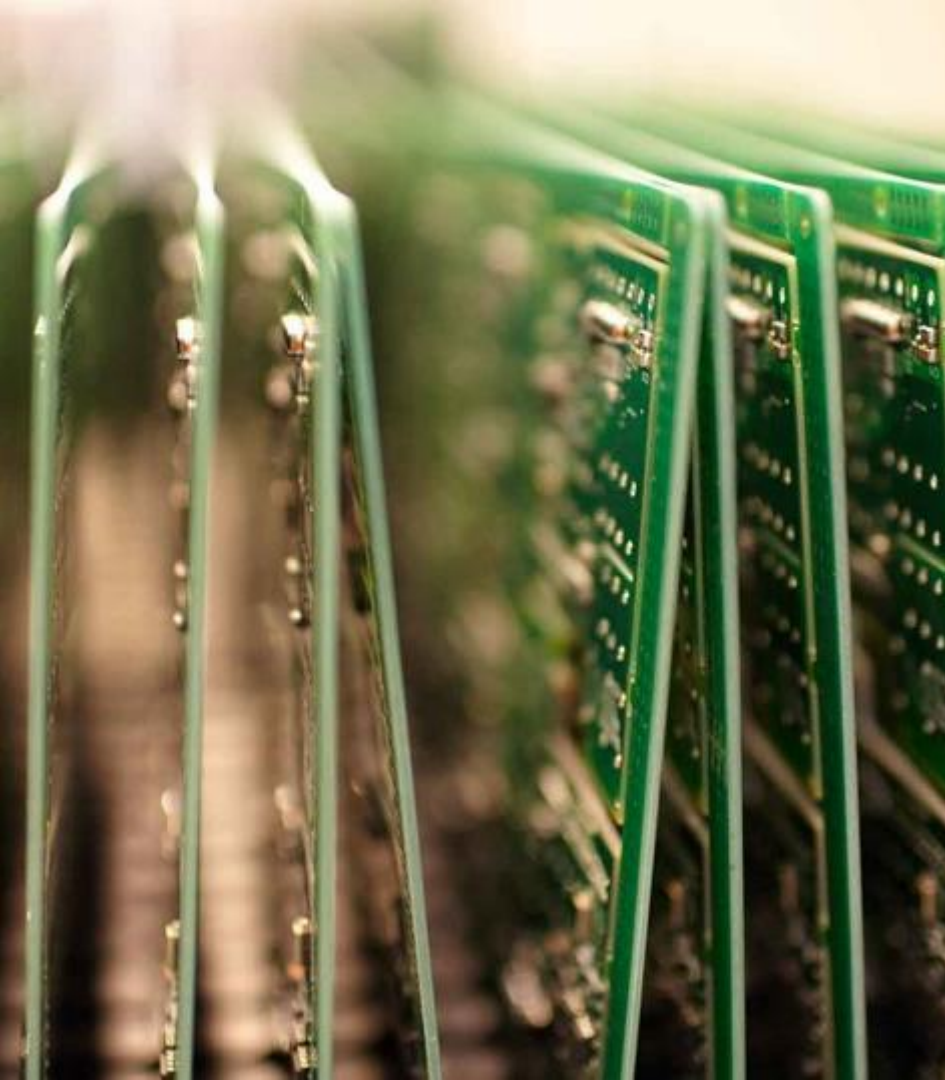
- Based in Spain in Igualada (next to Barcelona).
- 70 employees working at BU Intesis.
- Founded in 2000, acquired by HMS in 2016 and integrated as a Business Unit in 2020.
- Different hardware platforms to offer more than 300 product references grouped in three product lines:
 1. Protocol Translators.
 2. AC interfaces.
 3. Cloud Solutions.
- Market leader in the integration of air conditioning.
- Active members of:
 - The KNX Association
 - BACnet International
 - Digital Illumination Interface Alliance.





Intesis Technology

- All our products and solutions are fully developed by us (hardware, software, and web services).
- Different hardware platforms to offer more than 300 product references.
- Large number of own developed protocol stacks.
- Active members of the KNX Association, BACnet International & Digital Illumination Interface Alliance.



Intesis Manufacturing

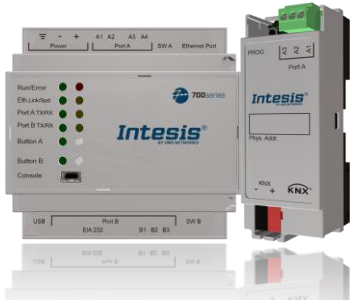
- Fully under control, partly externalized to EMS providers in Europe (PCB fabrication and component assembly).
- 100% of products are tested in-house using own developed automated processes and stations.
- Full traceability of manufactured products and components.
- Processes certified under ISO 9001/14001 since 2007.

About Intesis – Customer references

The world major Building Automation companies use Intesis

Intesis products

Gateway solutions for Building Automation



Protocol Translators

With cutting edge technology built on a reliable platform, integration solutions are offered for all your needs.



AC Interfaces

Highly reliable interfaces for Air Conditioning integration, developed in collaboration with all major AC manufacturers.



Cloud Solutions

Cloud-based solutions that enables easy monitoring and control from mobile phone apps and computer web interfaces.



[Intesis Brochure](#)

INTESIS PROTOCOL TRANSLATORS

Intesis Protocol Translators

We offer integration solutions for all your needs

- **Intesis** supports all major building automation technologies and standards.
- Simple, robust and reliable.
- Configuration software providing an easy setup process, examples, templates and useful diagnostics and troubleshooting tools.
- Certifications for protocols and markets.



ASCII

ASHRAE BACnet™

Modbus

KNX

M-Bus

DALI

DALI 2

LonWorks

EtherNet/IP™

PROFI
NET®

OCPP

700 Series Intesis platforms for multi-protocol selection



700 Series is the new platform concept for Intesis Protocol Translators.

This concept enables interfaces for multiple Building Automation protocols *in the same hardware*.

BENEFITS:

Reduced number of references to stock, **optimizing distributors lead times.**

“Late configuration”: using Intesis MAPS, the user can pair the protocol combination needed for the project.

The user can change applications quickly with our configuration tool Intesis MAPS.

Diagnostic and troubleshooting tools available in our configuration tool MAPS

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 setup with Intesis MAPS, our user-friendly configuration tool.



High Capacity

Up to 3000 data points of capacity to match your Project needs.



Certification

International & local certificates. Ready to be sold worldwide.



Protocols supported by Intesis protocol translators

Home & Building Automation protocols supported:

BMS/Scada/Controllers/HMI

ASCII



KNX



Field Devices



M-Bus



KNX



EtherNet/IP

Intesis Protocol Translators

Configuration tool

Field Device Protocol / Control System Protocol	BACnet	KNX	Modbus	M-Bus	DALI	LonWorks	PROFINET	EtherNet/IP	OCPP
BACnet	MAPS	MAPS	MAPS	MAPS	MAPS	MAPS	MAPS	MAPS	
KNX	MAPS		MAPS ETS	MAPS	MAPS				
Modbus	MAPS	MAPS	MAPS	MAPS	MAPS				MAPS
ASCII	MAPS	MAPS							

Click here to download the Free Intesis configuration tool [MAPS](#)



Intesis Protocol Translators order codes

Field Device Protocol / Control System Protocol	BACnet	KNX	Modbus	M-BUS	DALI	LONWORKS	PROFINET	EtherNet/IP	OCPP
				WWW	WWW	WWW	WWW	WWW	WWW
BACnet www	INBACRTR0320000 www	IN701KNX1000000 IN701KNX2500000 IN701KNX6000000 IN701KNX1K20000 IN701KNX3K00000	IN7004851000000 IN7004852500000 IN7004856000000 IN7004851K20000 IN7004853K00000	INBACMEB0100000 INBACMEB0200000 INBACMEB0600000 INBACMEB1200000 NEW INBACMEB0200100 INBACMEB0500100	INBACDAL0640200 INBACDAL1280200 INBACDAL0640500	INBACLON1000000 INBACLON2500000 INBACLON6000000 INBACLON1K20000 INBACLON3K00000	INBACPRT1K20000	INBACPRT1K20000	
KNX www	IN701KNX1000000 IN701KNX2500000 IN701KNX6000000 IN701KNX1K20000 IN701KNX3K00000		IN701KNX1000000 IN701KNX2500000 IN701KNX6000000 IN701KNX1K20000 IN701KNX3K00000 INKNXMBM1000200	INKNXMEB0100000 INKNXMEB0200000 INKNXMEB0600000 INKNXMEB1200000	INKNXDAL0640200				
Modbus www	IN7004851000000 IN7004852500000 IN7004856000000 IN7004851K20000 IN7004853K00000	IN701KNX1000000 IN701KNX2500000 IN701KNX6000000 IN701KNX1K20000 IN701KNX3K00000	INMBSRTR0320000	INMBSMEB0100000 INMBSMEB0200000 INMBSMEB0600000 INMBSMEB1200000 NEW INMBSMEB0200100 INMBSMEB0500100	INMBSDAL0640200 INMBSDAL1280200 INMBSDAL0640500				INMBSOCP0010100 INMBSOCP0200100
ASCII www	IN7004851000000 IN7004852500000 IN7004856000000 IN7004851K20000 IN7004853K00000	IN701KNX1000000 IN701KNX2500000 IN701KNX6000000 IN701KNX1K20000 IN701KNX3K00000							

Configuration tool "MAPS"

MAPS (Multi-protocol Addressing Points Solution).



MAPS is the free user-friendly configuration tool for Intesis Protocol Translators and MIU AC interfaces.

FEATURES:

- **Project templates** that provides you a step-by-step guide.
- **Scan** to find the devices on the field and import all the required data to help you work more efficiently.
- Data **conversions** (offset, scaling, your own rules).
- **Commissioning & Start-up.**
- **Diagnostics & Troubleshooting.**
- Automated Tool & Firmware **updates.**

Getting started

News
[Latest News and Updates](#)

Start
[Create New Project](#)
[Load Project](#)
[Get Project from Device](#)
[Update Gateway Firmware](#)
[Import Project From USB Host](#)

Recent

New Project

Select BMS Protocol



Select Template

Order Code:

Project Name	BMS Protocol	Device Protocol	Description	Gateway Order Code
IN-BAC-ACA	BACnet Server	AC and VRF	Intesis AC and VRF to BACnet Server Gate...	INBACACA0041000
IN-BAC-DALI-128	BACnet Server	DALI	Intesis DALI to BACnet Server Gateway	INBACDAL128VV00 IBBACDAL128VV00

Click [here](#) for watching the MAPS training video





Intesis Protocol Translators summary

- Reliable solutions.
- Easy to install, easy to use, easy to configure.
- Technical support specialized in Home & Building Automation.
- Flexibility: possibility to adapt our product offering in an efficient way, independently of the project's size.
- Bidirectional control and monitoring of all parameters and functionalities of your building automation projects.
- Certifications: KNX, BTL, DALI, CB, CE, UL, KC.
- Powerful configuration of all Intesis Protocol Translators using MAPS:
 - Project templates
 - Product templates
 - Device scan
 - Data conversion
 - Diagnostics and troubleshooting
- Integrated level converter / DALI power supply.
- DALI 2.0 Support and certification from DIIA.
- 3 years warranty.

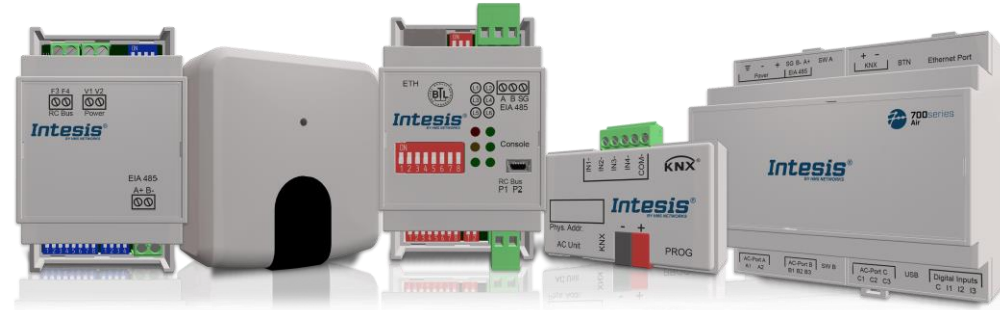
INTESIS AC INTERFACES

Intesis interfaces for air conditioners

The largest market range of gateways for AC integration



- Developed based on AC manufacturers specifications.
- Control all variables from AC system.
- Reliable and easy to setup products.
- Controlling HVAC systems in a building becomes one of the most significant efforts for energy savings.



About Intesis – Our strengths

ENERGY EFFICIENCY

Energy costs related to HVAC systems in a building are one of the highest. Therefore, controlling those systems becomes one of the most significant energy savings efforts.

EASY TO USE

The essence of Intesis: ensure your integrations are successful by offering reliable products, easy to setup, and with the best functionalities.

RELIABLE SOLUTIONS

Based on specifications from AC manufacturers, our developments provide reliable solutions by implementing the air conditioners features and functions that allow the maximum efficiency inherent in these systems as well as the comfort of their users.

SCALABILITY

No matter the size of the project or the budget, there are products in our portfolio to fit the needs of any specific requirement.

Building automation protocols supported - AC



AC Cloud Control

BACnet

Intesis offers individual and centralized BACnet gateways for the integration of AC units, supporting both BACnet/IP and BACnet MS/TP integrations with BTL mark, as well as a universal interface infrared to BACnet MS/TP



KNX

With more than one decade of experience in KNX integration of AC systems, Intesis offers individual and centralized solutions, as well as a universal interface based on infrared communication



Modbus

Intesis offers easy to use and reliable solutions for AC integration into both Modbus TCP and/or Modbus RTU, for individual and centralized control of the AC system, and a universal IR interface to Modbus RTU.



Home Automation

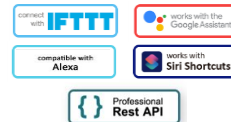
Intesis individual and centralized gateways allows AC **local integration** into IP-based home automation systems.

Drivers available



AC Cloud Control

Remote control system, **cloud-based**, that allows comfortable and intuitive management of AC units from any smartphone, tablet, smartwatch or from a simple internet browser.



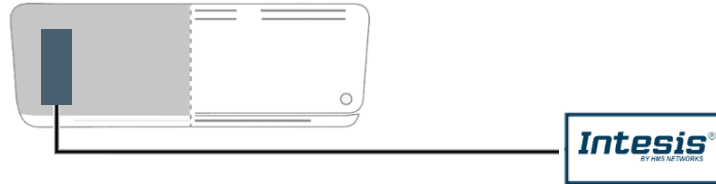
Connection with AC units

Individual Controllers – indoor units:

- Infrared communication with IR receiver (bidirectional)



- Wired connection to the main circuit board (inside the indoor unit)



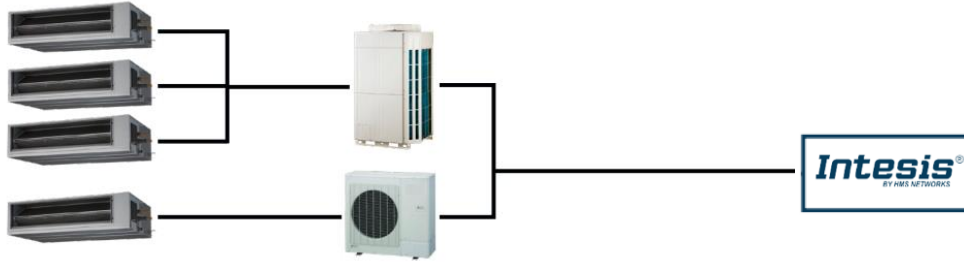
- Connection to the wired remote controller bus



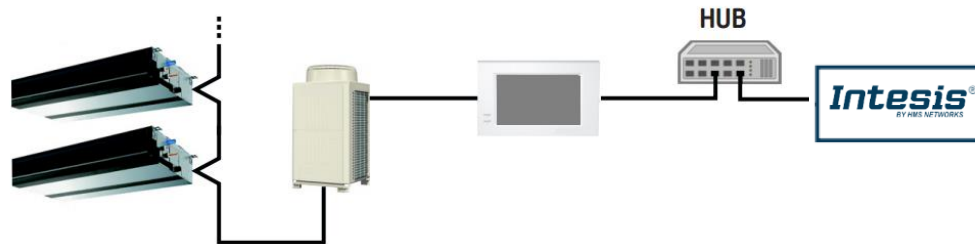
Connection with AC units

Multiple Indoor Unit gateways (MIU):






- Direct access to the outdoor unit communication bus



- Connected to centralized remote controllers








Intesis AC interfaces matrix – product availability

BMS/ SCADA/ CONTROLLER	BOSCH	DAIKIN	FUJITSU GENERAL LIMITED	HAIER	HISENSE	HITACHI	LG	MIDEA	mitsubishi ELECTRIC	mitsubishi HEAVY INDUSTRIES	PANASONIC	SAMSUNG	TOSHIBA	UNIVERSAL ¹
BACNET	MIU	1x1	1x1 MIU 	-	MIU	1x1 MIU	-	1X1 MIU	1x1 MIU 	1x1 MIU 	1x1 MIU	1x1 MIU	1x1	1x1
KNX	1x1 MIU	1x1	1x1 MIU	MIU	1x1 MIU	AW 1x1 MIU	1x1 MIU	1x1 MIU	1x1 MIU	1x1 MIU	AW 1x1 MIU	MIU	1x1 MIU	1x1
MODBUS	1x1 MIU	1x1	1x1 MIU	-	1x1 MIU	1x1 MIU	1x1	1x1 MIU	1x1 MIU	1x1 MIU	AW 1x1 MIU	1x1 MIU	1x1	1x1
HOME AUTOMATION	-	1x1	1x1 MIU	-	MIU	MIU	1x1	MIU 	1x1 MIU	1x1 MIU 	1x1 MIU	MIU	1x1	1x1
AC CLOUD CONTROL	-	1x1	1x1	-	-	-	1x1	-	Available under certain conditions. Contact your HMS Sales Rep	1x1	1x1	-	1x1	1x1

¹The universal device is compatible with any AC indoor unit provided with IR Receiver

1x1: Individual controller
MIU: Multiple Indoor Units
AW: Air to Water units

AC interfaces matrix – MIU (Multi Indoor Units)

BMS/ SCADA/ CONTROLLER	BOSCH	DAIKIN	FUJITSU GENERAL LIMITED	HAIER	HISENSE	HITACHI	LG	MIDEA	mitsubishi ELECTRIC	MITSUBISHI HEAVY INDUSTRIES	PANASONIC	SAMSUNG	TOSHIBA
BACNET	INBACAA004I000	-	IN775FGL00SO00 IN775FGL00MO000 	-	IN770AIR00SO000 IN770AIR00MO000	IN770AIR00SO000 IN770AIR00MO000	-	IN770AIR00SO000 IN770AIR00MO000	IN770AIR00SO000 IN770AIR00MO000 	IN776MHI00SO000 IN776MHI00MO000 IN776MHI00LO000 	IN770AIR00SO000 IN770AIR00MO000 IN771AIR00LO000	IN770AIR00SO000 IN770AIR00MO000	-
KNX	INKNXACA016I000 INKNXACA064I000	-	IN775FGL00SO000 IN775FGL00MO000	INKNXHAI008C000 INKNXHAI016C000 INKNXHAI064C000	IN770AIR00SO000 IN770AIR00MO000	IN770AIR00SO000 IN770AIR00MO000	INKNXLGE016O000 INKNXLGE064O000	IN770AIR00SO000 IN770AIR00MO000	IN770AIR00SO000 IN770AIR00MO000	IN776MHI00SO000 IN776MHI00MO000 IN776MHI00LO000	IN770AIR00SO000 IN770AIR00MO000 IN771AIR00LO000	IN770AIR00SO000 IN770AIR00MO000	INKNXTOS016O000 INKNXTOS064O000
MODBUS	INMBSACA004I000 INMBSACA008I000 INMBSACA032I000	-	IN775FGL00SO000 IN775FGL00MO000	-	IN770AIR00SO000 IN770AIR00MO000	IN770AIR00SO000 IN770AIR00MO000	-	IN770AIR00SO000 IN770AIR00MO000	IN770AIR00SO000 IN770AIR00MO000	IN776MHI00SO000 IN776MHI00MO000 IN776MHI00LO000	IN770AIR00SO000 IN770AIR00MO000 IN771AIR00LO000	IN770AIR00SO000 IN770AIR00MO000	-
HOME AUTOMATION	-	-	IN775FGL00SO000 IN775FGL00MO000	-	IN770AIR00SO000 IN770AIR00MO000	IN770AIR00SO000 IN770AIR00MO000	-	IN770AIR00SO000 IN770AIR00MO000 	IN770AIR00SO000 IN770AIR00MO000	IN776MHI00SO000 IN776MHI00MO000 IN776MHI00LO000 	IN770AIR00SO000 IN770AIR00MO000 IN771AIR00LO000	IN770AIR00SO000 IN770AIR00MO000	-
AC CLOUD CONTROL	-	-	-	-	-	-	-	-	-	-	-	-	-

Intesis AC interfaces matrix – configuration tool

BMS/ SCADA/ CONTROLLER	Infrared (1X1)	Main Circuit Board (1X1)	Remote controller Bus (1X1)	Comm port from outdoor unit (MIU)	Centralized remote (MIU)
BACNET	MAPS	DIP-switches	DIP-switches	MAPS	MAPS
KNX	ETS	ETS	ETS	MAPS	MAPS
MODBUS	MAPS	DIP-switches or Modbus RTU	DIP-switches or Modbus RTU	MAPS	MAPS
HOME AUTOMATION	Web Browser or WMP Config. tool	Web Browser or WMP Config. tool	Web Browser or WMP Config. tool	MAPS	MAPS
AC CLOUD CONTROL	Wi-Fi configuration	Wi-Fi configuration	BLT configuration		

Free Intesis configuration tools:

[WMP](#)

[MAPS](#)





Summary AC interfaces

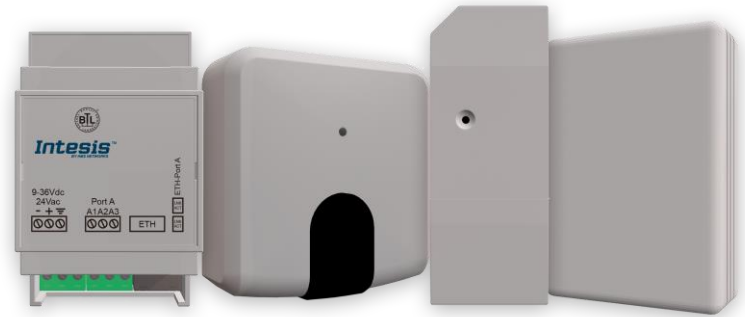
- **Easy to install, easy to configure, easy to use**
 - Simple configuration tool or DIP switches.
 - Same register maps for all our Modbus 1x1 interfaces.
 - Same BACnet objects independently of the AC Brand.
- **Reliable**
 - Developed in collaboration with AC manufacturers.
 - Multiple brands, models and protocols.
 - Technical support specialized in Home & Building Automation.
 - Certifications: KNX, BTL, UL, UKCA, CE, RCM.
 - 3 years warranty.
- One single supplier regardless of the AC brand or control technology.
- Global coverage.
- Scalable: possibility to adapt our product offering in an efficient way, independently of the project's size.
- Additional energy efficiency features such as: "timeout", "open window" or "occupancy".

INTESIS CLOUD SOLUTIONS

Intesis Cloud Solutions

Manage and control over Internet from an App or web interface

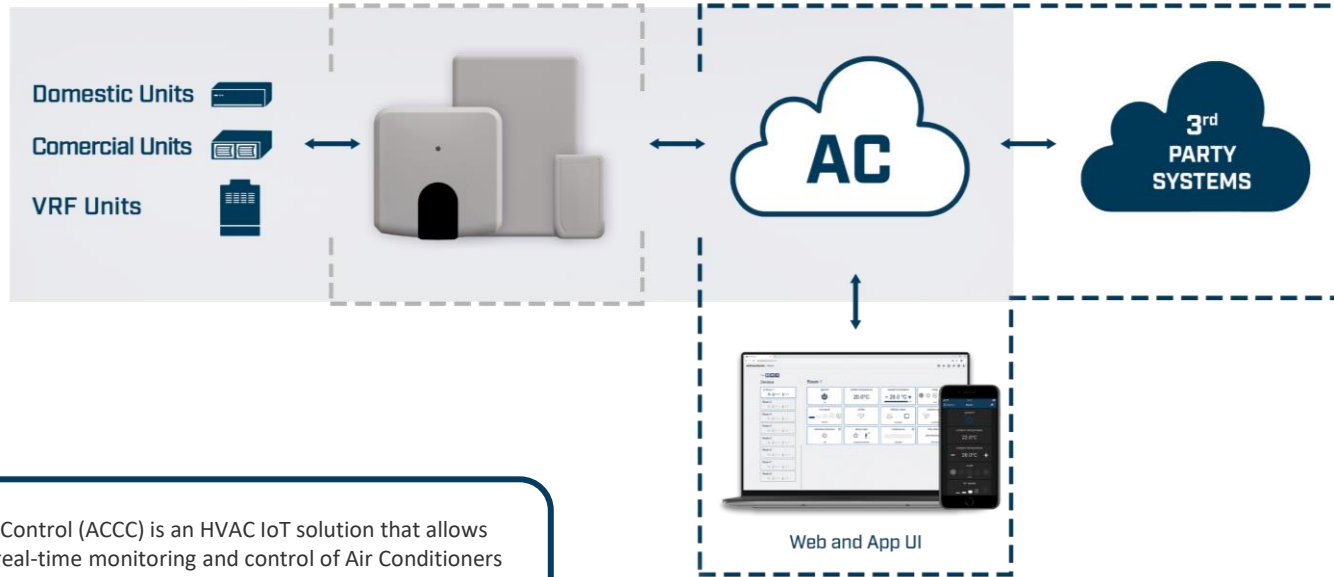
- Monitor and control field devices in an easy and intuitive way from the cloud.
- End-user friendly: Features native iOS and Android app and web interface.
- Multi-User: Manage multiple users and permissions per project.
- Multi-Site: Manage multiple sites from the same dashboard.
- Easy to install and intuitive configuration tools for fast project commissioning.
- Product lines:
 - AC Cloud Control (ACCC)
 - ST Cloud Control (STCC)



AC CLOUD CONTROL (ACCC)

AC Cloud Control - Description

Multi AC brand web and App control for Domestic, Commercial and VRF systems
Integration example



AC Cloud Control (ACCC) is an HVAC IoT solution that allows intuitive real-time monitoring and control of Air Conditioners and Heat Pumps from a smartphone, tablet, smart watch or from a simple internet browser.

AC Cloud Control – Key Benefits



- Multi AC brand



- Multiuser



- Multisite



- Real time monitoring and control



- API for 3rd party integration



- Maintenance functionalities



- Energy efficiency functionalities



- Cheaper than a conventional BMS



- End user-oriented Android and iOS app for device control



- Web based user-friendly dashboard



- Reliable: in the market since 2012



- Customized solutions available

AC Cloud Control – Functions included



Remote control



ON/OFF



T° Set point



Mode



Ambient T°



Fan & vane control

Smart



Email & push notifications



Timer & scenes



Multi-language



Error codes & descriptions¹



Voice over



Extreme protection²
(Anti-Frost and Overheat)



Operating hours



Auto updates

Professional



Maintenance &
filter cleaning



Presence detector
& window contact²



Schedule **Annual**
calendar

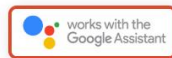


T° Limitation



Multiple sites

Compatible with:



LANGUAGES:

Arabic, Catalan, Czech, Danish, German, Greek, English, Spanish, Persian, Finnish, French, Hebrew, Hindi, Croatian, Hungarian, Italian, Dutch, Norwegian, Polish, Portuguese, Romanian, Russian, Swedish, Turkish, Chinese, Bulgarian.

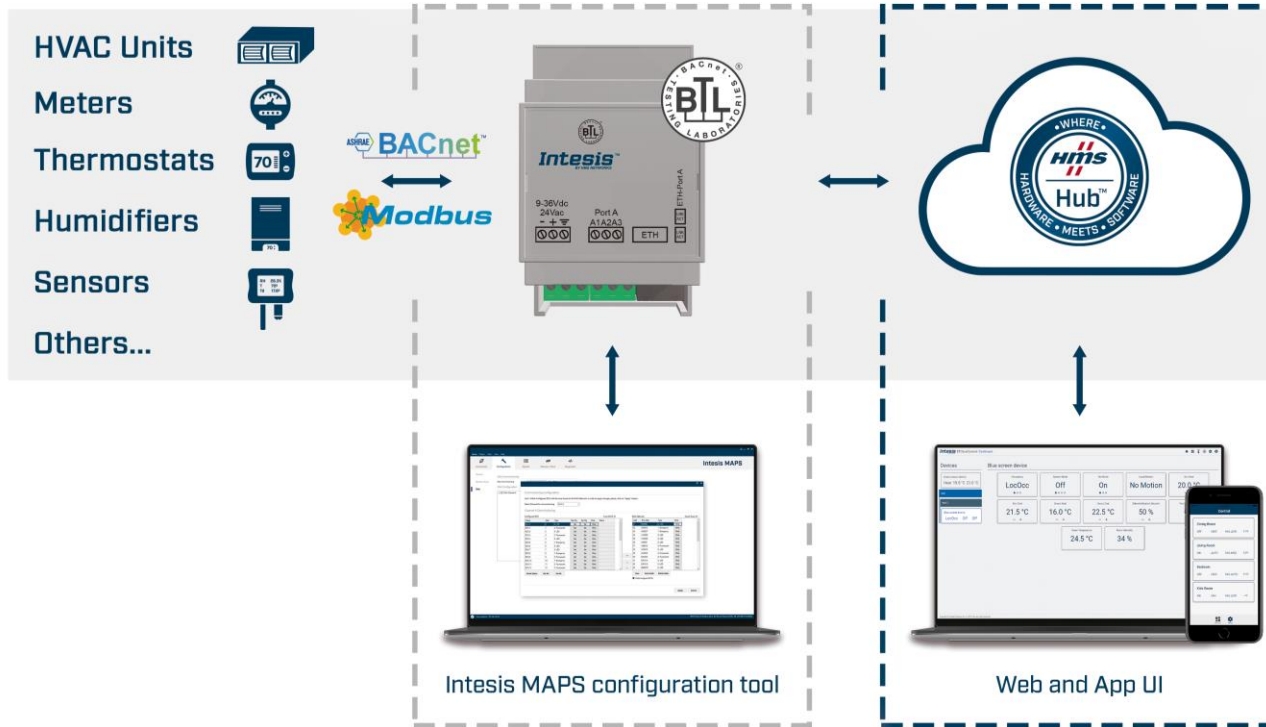
¹: not available for the IR gateway
²: only available for the IR gateway



ST CLOUD CONTROL (STCC)

Intesis ST Cloud Control

System architecture



Intesis ST Cloud Control



Gateway overview

- **BACnet MS/TP & IP** (one or the other)
- **Modbus RTU and TCP*** (simultaneously)
- Ethernet port for **Cloud connection**
- Supports up to **4/8/16/32 devices**
- **MAPS** configuration tool
- [Android](#) and [iOS](#) app
- **Web** based dashboard
- **12 widgets** per device (this widgets can be shared/split in between devices connected to the same gateway)

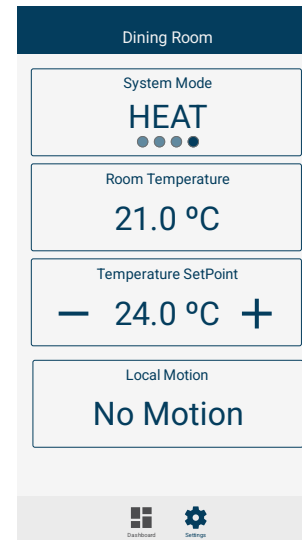
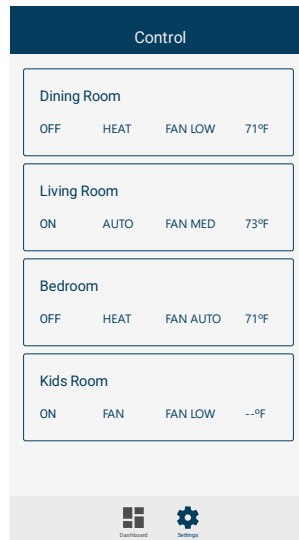
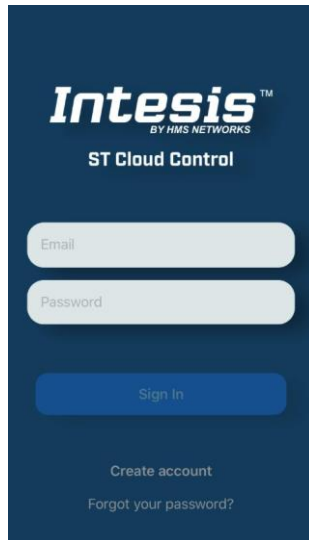


* Note: Up to 5 Modbus TCP nodes per gateway.

Intesis ST Cloud Control

Product overview - APP

- Available for **Android and iOS**
- **End-user friendly**
- **Device Monitoring and Control**



Intesis ST Cloud Control

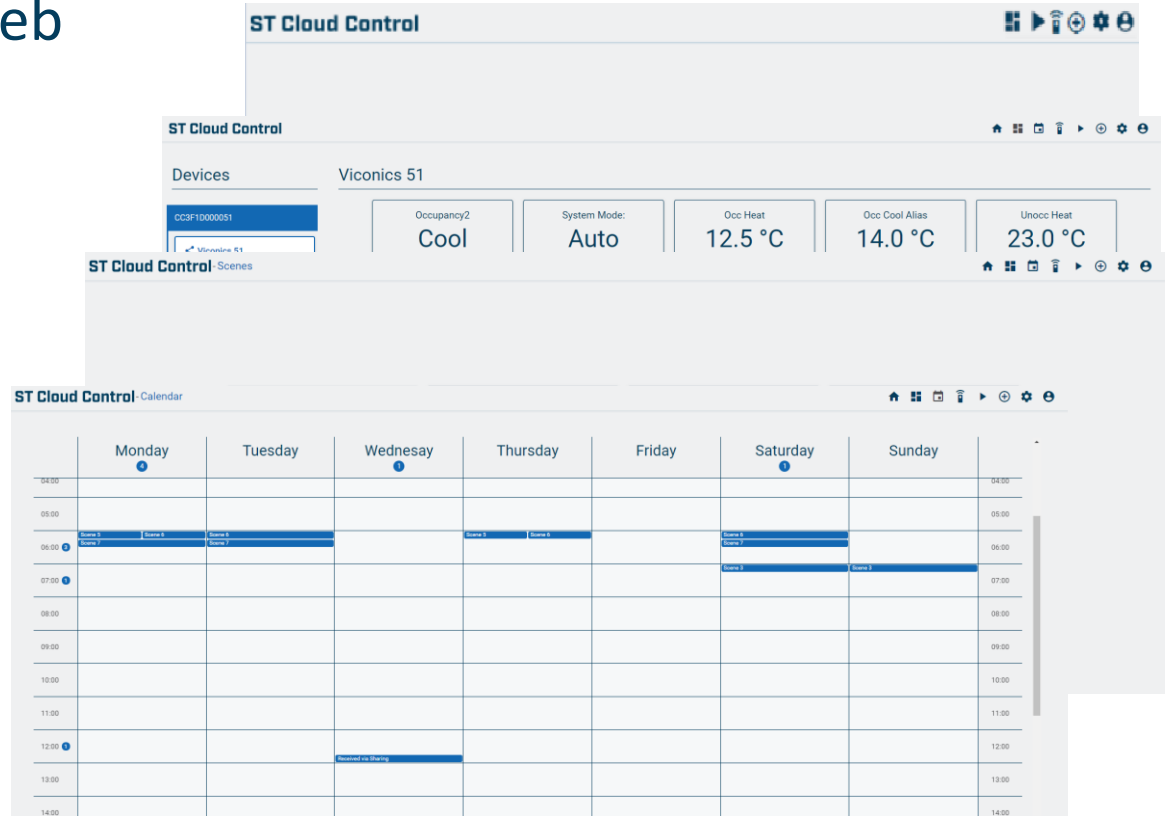
Product overview - Web

Functionalities available

- Control & Monitoring
- Device Sharing
- Scenes and Timed Scenes
- Notifications (Errors & Alarms)
- Weekly Calendar
- Online Firmware updates

End-user friendly Android and iOS app available.

Common dashboard for all BACnet and Modbus devices.



USE CASES

Use Cases

Intesis gateway solutions for hotels

SOLUTION:

BACnet protocol translators and AC interfaces.

ENABLES:

- HVAC systems integration.
- Lighting control (DALI).
- Fire detection.
- Integration to standard communication protocols.

PRODUCT FEATURES:

- Support for BACnet IP and MSTP
- BBMD and foreign Device
- Notification Classes
- BTL certified



Use Cases

Small and medium installations

SOLUTION:

Gateways and interfaces for small and medium installations.

PROVIDES:

Air Conditioner main functions:

- On/Off
- Mode
- Set Point
- Ambient Temp.
- Error Code

REQUIREMENTS:

- Decentralized solution.
- Improvement of energy savings.
- Optimization of the air conditioning system for the different zones in the building integrating Domestic and Commercial AC systems.

Click [here](#) and download the solution sheet

Use Cases

Gateways for retail sector

SOLUTION:

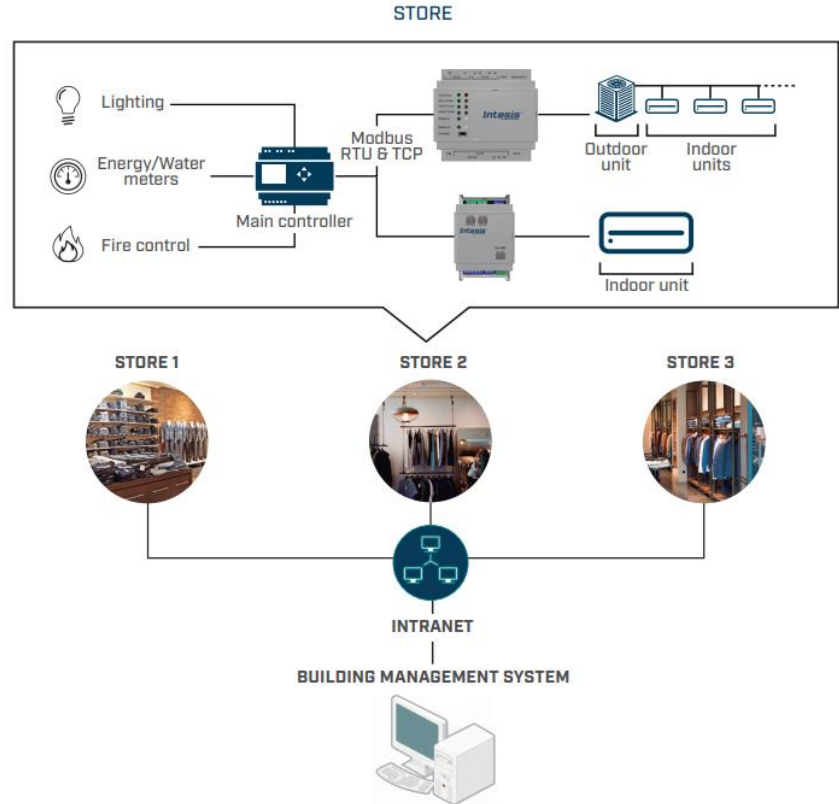
Intesis Modbus gateways in the retail sector.

PROVIDES:

- Supervision and control of all the parameters from the AC system.
- Real time AC alarm monitoring.
- Temperature limitation.
- Generation of scheduled actions when stores are opening/closing
- Possibility to have a global control of all the stores' AC system from a central point.

REQUIREMENTS:

- Easy installation
- Great integration flexibility
- Easy and fast integration
- Complete Control of AC



Use Cases

HVAC zoning systems

SOLUTION:

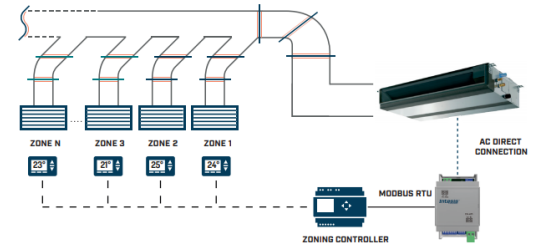
Intesis Modbus gateways for zoning systems.

ENABLES:

- Unique Modbus register map for all AC Brands
- Bidirectional communication between the zoning system and the AC unit.
- Increase end user's comfort.
- Reduction of energy consumption.

PRODUCT FEATURES:

- Easy installation
- Great integration flexibility
- Easy and fast integration
- Complete Control of AC units



ADDITIONAL INFORMATION

Intesis free eLearning Platform



[ABOUT US](#) [CONTACT](#) [SIGN IN](#)



Integrate easily with MAPS



[Go to course](#)

AC Cloud Control devices



[Go to course](#)

Understanding Protocols Technology at Intesis' solutions

Let our technical staff explain to you how each protocol used in our solutions works in your system.



[BACNET COURSE](#)



[DALI COURSE](#)



[HOME AUTOMATION COURSE](#)



[KNX COURSE](#)



[M-BUS COURSE](#)



Contact us!



Contact Us

Whether you require sales or customer service, we at HMS are here to help.

HAVE A QUESTION FOR TECHNICAL SUPPORT?

[→ Contact Technical Support](#)

Phone Number

Sales enquiries: +33 (0)3 67 88 02 50



Intesis Sales Contact Form

HMS - Information Type*

- Pricing and Availability
- Sales Question

Message to HMS*

Please describe your connectivity requirement

First Name*

First

Last Name*

Last/surname



Stay Connected!
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Hardware Meets Software™