# IntesisBox®

Making Building Automation go Jurther









Interfaces for Mitsubishi Electric air conditioning

March 2009

Overview of products

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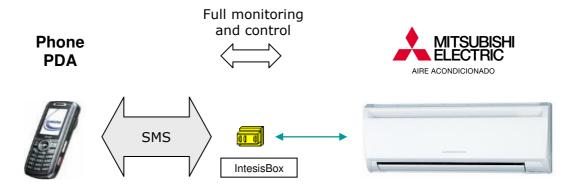
IntesisBox® Modbus Slave - Mitsubishi Electric A.C. (Domestic/Mr.Slim) IntesisBox® Modbus Slave - Mitsubishi Electric A.C. (Domestic/Mr.Slim) with 2 digital inputs and 1 relay output IntesisBox® Modbus Server - Mitsubishi Electric A.C. (City Multi)





# IntesisBox® SMS series

### SMS interfaces





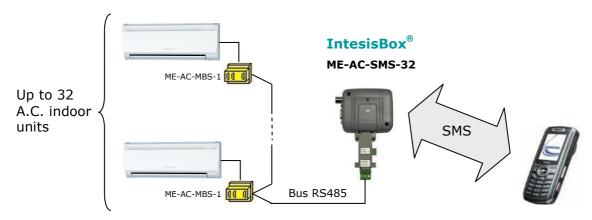
IntesisBox®

### IntesisBox® SMS - Mitsubishi Electric A.C. (Domestic/Mr.Slim)

Order Code: ME-AC-SMS-32



Control your Mitsubishi Electric air conditioners, *Domestic & Mr.Slim lines*, from your mobile phone by means of simple SMS messages.



ME-AC-SMS-32 has been designed to monitor and control Mitsubishi Electric A.C. units using simple SMS messages from any mobile phone or PDA. Compatible with all models of *Domestic & Mr.Slim* lines. Requires the installation of one interface ME-AC-MBS-1 each A.C. indoor unit to be controlled.

The communication with the A.C. indoor units is through standard RS485 bus, allowing up to 1,200 meters of bus length. ME-AC-SMS-32 performs a continuous monitoring of the internal operation parameters and alarms of the A.C. units, so an SMS indicating alarm in any of the A.C. units can be immediately sent to one or more recipients whenever the alarms occur.

Security in front of unwanted access: Allows configuring a list of phone numbers with permitted access to the system, any phone that is not in the list can not access the system.

Alarms notification fully configurable: Allows configuring one or more phone numbers (recipients) to notify the alarms, notification of alarms restoration (back to normal), and a maximum quota of alarms to notify per day.

Automatic control of A.C. units: Powerful and flexible automatic management of the A.C. units (Start/Stop, Set Temp and Mode) based on calendar.

Different languages: Language for SMS messages is selectable.

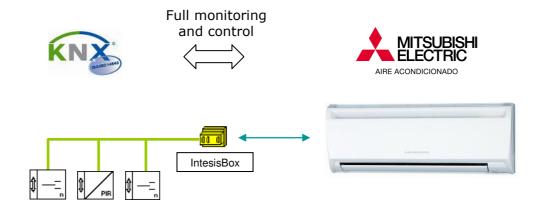
Simple configuration and setup: The interface comes pre-configured from factory, just the number of A.C. units to control must be configured for a simple operation. The entire configuration is done through simple SMS messages.





# IntesisBox® KNX series

### **KNX EIB interfaces**







### IntesisBox® KNX - Mitsubishi Electric A.C. (Domestic/Mr.Slim)

Order Code: ME-AC-KNX-1-V2





### KNX EIB interface for Domestic & Mr.Slim (commercial) line of Mitsubishi Electric air conditioners.

- The ME-AC-KNX-1-V2 interface has been designed in co-operation with Mitsubishi Electric to offer full monitoring and control of Domestic & Mr.Slim line of air conditioners from KNX EIB.
- Small dimensions. Connects directly to the EIB bus in one side, and in the other side connects to the PCB of the A.C. indoor unit, no other external power is required. The cable needed to connect to the A.C. indoor unit, 3 meters long, is also supplied with the interface.
- Every A.C. indoor unit to connect to KNX requires an ME-AC-KNX-1-V2 interface. Every A.C. indoor unit equipped with ME-AC-KNX-1-V2 becomes an independent KNX device, configurable from ETS, and offering full monitoring/control of the unit from the KNX control system.
- Control based on the ambient temperature measured by the own AC unit or supplied by any external KNX temperature sensor, selectable.
- All the functions allowed by the remote IR control are allowed also by ME-AC-KNX-1-V2, and some additional ones really useful, as for example to stop the A.C. unit when the window of the room is open, save and execute scenes, etc.
- Communication with KNX is bi-directional, from KNX you can access to operation mode, temperature, errors... of the A.C. unit.





### IntesisBox® KNX - Mitsubishi Electric A.C. (City Multi)

Order Code: ME-AC-KNX-15 / ME-AC-KNX-100



# KNX EIB gateway for City Multi (professional) line of Mitsubishi Electric air conditioners.

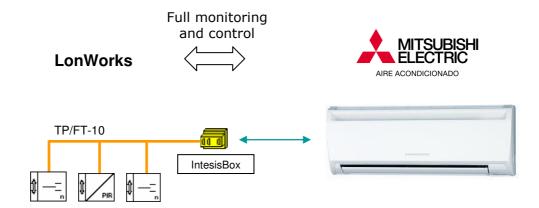
- ME-AC-KNX-15 and ME-AC-KNX-100 gateways have been designed in cooperation with Mitsubishi Electric to offer full monitoring/control of City Multi (professional) line of air conditioners from KNX EIB installations.
- It connects directly to the EIB bus in one side, and in the other side it communicates with the City Multi system through the Mitsubishi Electric G-50A or GB-50A interface. For this integration it is required the interface G-50A or GB-50A from Mitsubishi Electric be installed in the City Multi system.
- Independent monitoring/control (bi-directional) from KNX of every group of A.C. indoor units, of multiple parameters (ambient temperature, set point temperature, operation mode, fan speed...). In the G50 the control unit is the group of indoor units, and each group can have from 1 to 16 associated indoor units. Nevertheless, individual control of single indoor units is also possible by associating a single indoor unit per each group in the G50.
- ME-AC-KNX-15 supports up to 15 groups of A.C. indoor units, ME-AC-KNX-100 supports up to 100 groups.
- All the functions allowed by the A.C. remote control are allowed also from KNX through this gateway.
- IntesisBox KNX series are configured using *LinkBoxEIB*, a software tool for windows<sup>TM</sup> which is supplied along with the purchase of IntesisBox with no additional cost. *Demo configuration files are also supplied for LinkBoxEIB with no additional cost, making the configuration of IntesisBox for this integration extremely easy and quick, almost plug & play.*





# IntesisBox® LON series

### LonWorks interfaces





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### IntesisBox® LON - Mitsubishi Electric A.C. (Domestic/Mr.Slim)

Order Code: ME-AC-LON-1



### LonWorks interface for Domestic & Mr.Slim (commercial) series of Mitsubishi Electric air conditioners.

- The ME-AC-LON-1 interface has been designed in co-operation with Mitsubishi Electric to offer full monitoring/control of Domestic & Mr.Slim series of air conditioners from LonWorks control systems.
- It connects to the LonWorks network (TP/FT-10 channel) in one side, and directly to the PCB of the A.C. indoor unit in the other side, no other external power is required. The cable to connect to the A.C. indoor unit is also included in the scope of delivery of the interface.
- Each A.C. indoor unit to integrate requires one ME-AC-LON-1 interface. The interface in mountable on DIN rail, wall, or even inside the A.C. indoor unit in some models. Reduced dimensions 93 x 53 x 58 mm.
- Easy configuration from any LonWorks standard commissioning tool, with input and output Standard Network Variable Types (SNVTs) to command and to get the real states of the AC unit's variables.
- Simultaneous use of the A.C. unit's IR remote control and the ME-AC-LON-1 is allowed, the same control functions of the IR remote control are possible with the ME-AC-LON-1, and some others really useful as for example to stop the unit when the window of the room is open.
- Fully bi-directional monitoring and control of the A.C. unit: Operation Mode, Set Point and Ambient Temperature, Vane Position, Alarms...

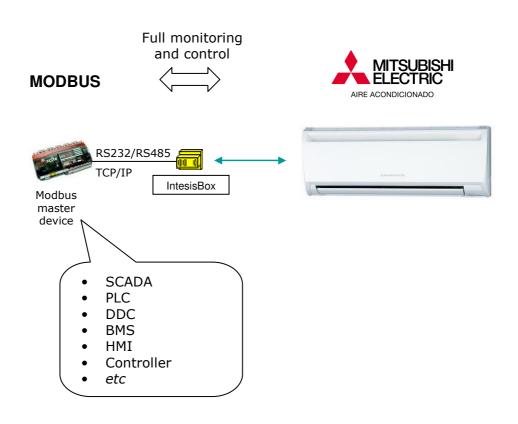




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## IntesisBox® Modbus Server series

### Modbus interfaces





# IntesisBox<sup>®</sup> Modbus Slave - Mitsubishi Electric A.C. (Domestic/Mr.Slim)

Order Code: ME-AC-MBS-1



# Modbus RTU slave interface for Domestic & Mr.Slim (commercial) series of Mitsubishi Electric air conditioners.

- The ME-AC-MBS-1 interface has been designed in co-operation with Mitsubishi Electric to offer full monitoring/control of Domestic & Mr.Slim series of air conditioners by any Modbus RTU master device.
- It connects to the Modbus RTU network (RS485 bus) in one side, and directly to the PCB of the A.C. indoor unit in the other side, no other external power is required. The cable to connect to the A.C. indoor unit is also included in the scope of delivery of the interface.
- Each A.C. indoor unit to integrate requires one ME-AC-MBS-1 interface. The interface in mountable on DIN rail, wall, or even inside the A.C. indoor unit in some models. Reduced dimensions 90 x 53 x 58 mm.
- Easy configuration (slave address, baud rate, A.C. model) by means of Modbus registers as well as on-board DIP-switches externally accessible. Slave address can be from 1 to 254, which means that up to 254 A.C. indoor units can be controlled by a single Modbus master device (repeaters may be required in the RS485 bus for long distances or when more than 32 devices are connected).
- Simultaneous use of the A.C. IR remote control and the ME-AC-MBS-1 is allowed, the same control functions of the IR remote control are possible with the ME-AC-MBS-1, and some others really useful as for example to stop the unit when the window of the room is open.
- Fully bi-directional monitoring and control of the A.C. unit: Operation Mode, Set Point and Ambient Temperature, Vane Position, Alarms...





IntesisBox<sup>®</sup>

# IntesisBox® Modbus Slave - Mitsubishi Electric A.C. (Domestic/Mr.Slim) with 2 digital inputs and 1 relay output

Order Code: ME-AC-MBS-1-2I1O



Modbus RTU slave interface for Domestic & Mr.Slim (commercial) series of Mitsubishi Electric air conditioners, with 2 general purpose digital inputs and 1 relay contact output.

- This interface has the same features as the ME-AC-MBS-1 and also incorporates 2 general purpose digital inputs and 1 relay dry contact output. It is specially indicated for its use to monitor/control Mr.Slim air conditioners in hotel rooms, allowing to monitor the occupancy of the room by a card holder connected to one digital input, and the window contact connected to the other digital input to switch off the air conditioner when the window is open, and use the relay output to drive lighting, etc. With just this cost affordable interface, a complete and efficient control of the room air conditioning and lighting can be achieved by any Modbus enabled control system.
- It connects to the Modbus RTU network (RS485 bus) in one side, and directly to the PCB of the A.C. indoor unit in the other side, no other external power is required. The cable to connect to the A.C. indoor unit is also included in the scope of delivery of the interface. RS485 bus and I/O connections is by means of plug in screw terminal blocks.
- Each A.C. indoor unit to integrate requires one interface. The interface in mountable on DIN rail, wall, or even inside the A.C. indoor unit in some models. Reduced dimensions 90 x 53 x 58 mm.
- Easy configuration (slave address, baud rate, A.C. model) by means of Modbus registers as well as on-board DIP-switches externally accessible. Slave address can be from 1 to 254, which means that up to 254 A.C. indoor units can be controlled by a single Modbus master device (repeaters may be required in the RS485 bus for long distances or when more than 32 devices are connected).
- Simultaneous use of the A.C. IR remote control and the interface is allowed, the same control functions of the IR remote control are possible with the ME-AC-MBS-1-2I1O, and some others really useful as for example to stop the unit when the window of the room is open.
- Fully bi-directional monitoring and control of the A.C. unit: Operation Mode, Set Point and Ambient Temperature, Vane Position, Alarms...

Datasheet with full technical details will be soon available, ask us for more details.





### IntesisBox® Modbus Server - Mitsubishi Electric A.C. (City Multi)

Order Code: ME-AC-MBS-50 / ME-AC-MBS-100



## Modbus gateway for City Multi (professional) series of Mitsubishi Electric air conditioners.

- This gateway has been designed in co-operation with Mitsubishi Electric to offer full monitoring/control of City Multi (professional) series of air conditioners by any Modbus master or client device (RTU or TCP).
- It connects directly to the Modbus network in one side, and in the other side it communicates with the City Multi system through the Mitsubishi Electric G-50A or GB-50A interface. For this integration it is required the Mitsubishi Electric G-50A or GB-50A interface be installed in the City Multi system, the G50 gives access to up to 50 groups of A.C. indoor units.
- Independent monitoring/control (bi-directional) from Modbus of each group of A.C. indoor units, of multiple parameters (Ambient Temperature, Set Point Temperature, Operation Mode, Fan Speed...). In the G50 the control unit is the group of indoor units, and each group can have from 1 to 16 associated indoor units. Nevertheless, individual control of single indoor units is also possible by associating a single indoor unit per each group in the G50.
- ME-AC-MBS-50 allows control of up to 50 groups of A.C. units, ME-AC-MBS-100 allows control of up to 100 groups.
- All the functions allowed by the A.C. remote control are also allowed from Modbus through the IntesisBox.
- IntesisBox Modbus Server series are configured using *LinkBoxMB*, a software tool for windows<sup>TM</sup> which is supplied along with the purchase of IntesisBox with no additional cost. *Demo configuration files are also supplied for LinkBoxMB with no additional cost, making the configuration of IntesisBox for this integration extremely easy and quick, almost plug & play.*





### Официальный дистрибьютор





INTESIS SOFTWARE provides innovative solutions for home and building automation in more than 40 countries around the world

