

IntesisBox[®] KNX

Mitsubishi Electric air conditioners
(Domestic & Mr.Slim lines)

Release **V.0.2**

User's Manual

v10 r10 eng

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Interface for integration of Mitsubishi Electric air conditioners (Domestic and Mr.Slim lines) into KNX TP-1 (EIB) control systems.

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



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1. Presentation

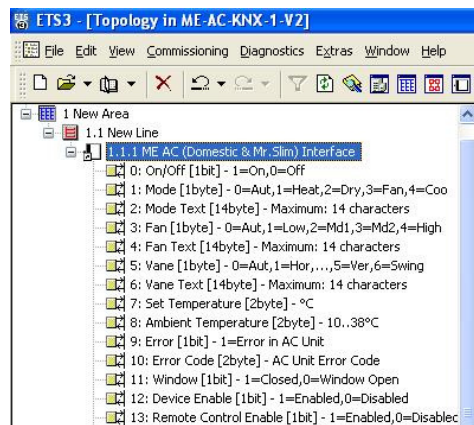


ME-AC-KNX-1-V2 allows a complete and natural integration of Mitsubishi Electric air conditioners with KNX control systems.

Compatible with all models of Domestic and Mr.Slim lines of air conditioners.

Main features:

- Reduced dimensions. Installation even inside the A.C. indoor unit.
- Quick and non visible installation.
- External power not required.
- Direct connection to the KNX EIB bus.
- Direct connection to the AC indoor unit.
- Fully KNX interoperable, certified by KNX, configuration from ETS.
- Multiple objects for control (of different types: bit, byte, characters...).
- Control of the AC unit based in the ambient temperature read by the own AC unit, or in the ambient temperature read by any KNX thermostat.
- Total Control and Monitoring of the AC unit from KNX, including monitoring of AC unit's state of internal variables, running hours counter (for filter maintenance control), and error indication and error code.
- AC unit can be controlled simultaneously by the IR remote control of the AC unit and by KNX.
- Up to 5 scenes can be saved and executed from KNX, fixing the desired combination of Operation Mode, Set Temperature, Fan Speed, and Vane Position in any moment by using a simple switching.



2. Connection

The interface comes with a cable (3 meters long) for direct connection to the internal control board of the AC indoor unit.

Connection of the interface to the AC indoor unit:

Disconnect mains power from the AC unit. Open the front cover of the indoor unit in order to have access to the internal control board. In the control board locate the socket connector marked as:

CN92 in Mr.Slim models.
or
CN105 in the rest of models.

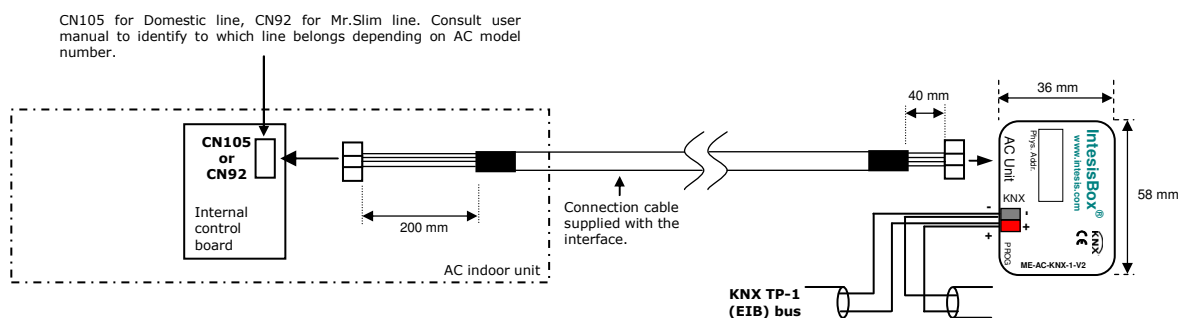
Using the cable that comes with the interface, insert one of its connectors, the one installed in the shortest uncovered part, into the socket of the ME-AC-KNX-1-V2 marked as **AC Unit**, and the other connector, the one in the largest uncovered part, into the socket **CN92** or **CN105** of the AC unit's control board. Fix the ME-AC-KNX-1-V2 inside or outside the AC indoor unit depending on your needs, remember that ME-AC-KNX-1-V2 must be also connected to the KNX bus. Close the AC indoor unit's front cover again.

IMPORTANT: Do not modify the length of the cable supplied with the interface, it may affect to the correct operation of the interface.

Connection of the interface to the KNX bus:

Disconnect power of the KNX bus. Connect the interface to the KNX TP-1 (EIB) bus using the KNX standard connector (red/grey) of the interface, respect polarity. Reconnect power of the KNX bus.

Connections diagram:



3. Configuration and setup

This is a fully compatible KNX device which must be configured and setup using standard KNX tool ETS.

ETS database for this device can be downloaded from:

<http://www.intesis.com/down/eib/ME-AC-KNX-1-V2.zip>

IMPORTANT: Do not forget to select the correct model of AC indoor unit connected to the interface, this is in "Parameters" of the device in ETS.

4. KNX communication objects

Main Objects.

Object #	0
Name	On/Off [1bit]
Function	1-On, 0-Off
Description	This object is used to Start (On) and Stop (Off) the AC unit
Access type	Read/Write
Data type ID	1.001

Object #	1
Name	Mode [1byte]
Function	0=Aut, 1=Heat, 2=Dry, 3=Fan, 4=Cool
Description	This object is used to monitor the Operation Mode in the AC unit
Access type	Read-only
Data type ID	5

Object #	2
Name	Mode Text [14 bytes]
Function	14 characters maximum
Description	This object is a text description of the selected Operation Mode
Access type	Read-only
Data type ID	16.001

Object #	3
Name	Fan [1byte]
Function	0=Aut, 1=Low, 2=Md1, 3=Md2, 4=High
Description	This object is used to monitor the Fan speed in the AC unit
Access type	Read-only
Data type ID	5

Object #	4
Name	Fan Text [14 bytes]
Function	14 characters maximum
Description	This object is a text description of the selected Fan speed
Access type	Read-only
Data type ID	16.001

Object #	5
Name	Vane [1byte]
Function	0=Aut, 1=Hor, 2=Pos2, 3=Pos3, 4=Pos4, 5=Ver, 6=Swing
Description	This object is used to monitor the Vane position in the AC unit
Access type	Read-only
Data type ID	5

Object #	6
Name	Vane Text [14 bytes]
Function	14 characters maximum
Description	This object is a text description of the selected Vane position
Access type	Read-only
Data type ID	16.001



Object #	7
Name	Set Temperature [2bytes]
Function	31..16°C or 30..19°C or 28..17°C depending on AC unit type, see below
Description	This object controls the temperature setpoint of the AC unit. Value is meant to be written only when "Virtual Temperature Control" parameter is inactive (set to "No").
Access type	Read/Write
Data type ID	9.001

Object #	8
Name	Ambient Temperature [2bytes]
Function	10..38°C
Description	This object indicates the current ambient temperature measured by the AC indoor unit
Access type	Read-only
Data type ID	9.001

Object #	9
Name	Error [1bit]
Function	1=Operation Error
Description	This object, when set to 1, indicates either an error in the AC unit or communication failure between AC unit and ME-AC-KNX-1-V2.
Access type	Read-only
Data type ID	1.001

Object #	10
Name	Error Code [2bytes]
Function	AC Unit Error Code
Description	This object indicates the Error Code of the AC unit. Note that a value of 8000h means no error; 8001h means communication error between ME-AC-KNX-1-V2 and the AC Unit. Consult further error codes in the list below.
Access type	Read-only
Data type ID	7

Object #	14
Name	Save/Execute Scene [1byte]
Function	For Save: 128=Scene1, 129=Scene2, 130=Scene3, 131=Scene4, 132=Scene5 For Execute: 0=Scene1, 1=Scene2, 2=Scene3, 3=Scene4, 4=Scene5
Description	This object is used to store/execute a scene (a scene is a given combination of set values for Operation Mode, Setpoint Temperature, Fan speed, and Vane position in the AC unit). The current combination of these values are stored in ME-AC-KNX-1-V2's eeprom when saving, and retrieved from memory and set in the AC unit when executing.
Access type	Write-only
Data type ID	5



