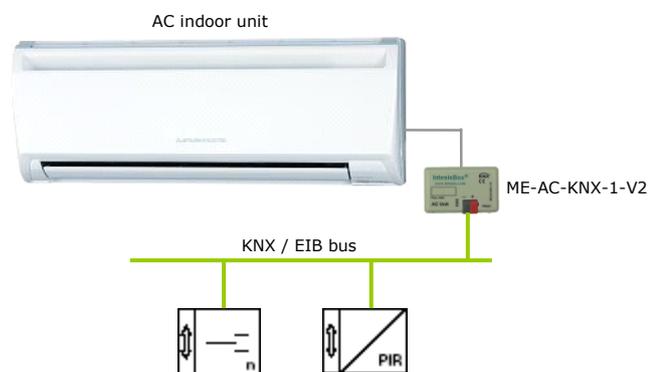




IntesisBox® ME-AC-KNX-1-V2

KNX Interface to integrate Mitsubishi Electric air conditioners



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 (see table of compatible models at the end of this document).

Simple installation. It can be install inside the own AC indoor unit, it connects one side directly to the electronic circuit of the AC indoor unit (cable supplied), and the other one directly to the KNX TP-1 (EIB) bus.

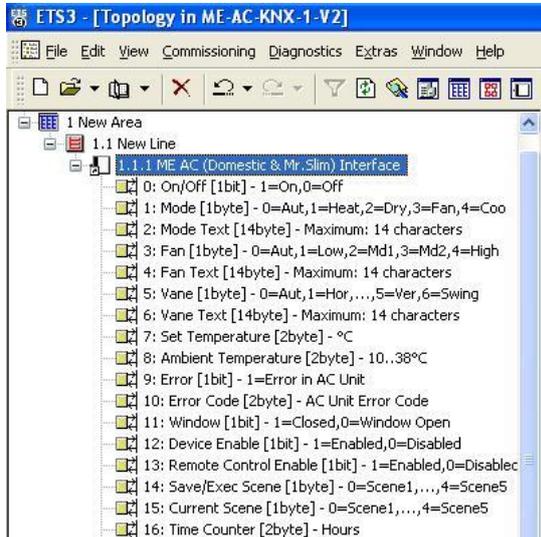
Great flexibility of integration into your KNX projects, and certified by KNX. Configuration is made directly from ETS, the database of the device comes with a complete set of communication objects allowing, from a simple and quick integration using the basic objects, to the most advanced integration with monitoring and control all the AC unit's parameters. Also available specific device's communication objects as for example save and execute scenes.

Allows the use of a KNX temperature sensor for the air conditioning control.

IntesisBox® ME-AC-KNX-1-V2 will allow you offering a full integration of the air conditioning in your KNX projects at a very affordable cost.

1. Communication objects

The ETS database of the device comes with multiple communication objects allowing great flexibility of integration.



Function	Object Type	R	W
On/Off	1 Bit	✓	✓
Ambient Temperature	2 Bytes	✓	
Virtual Ambient Temperature ¹	2 Bytes		✓
Setpoint Temperature	2 Bytes	✓	✓
Virtual Setpoint Temperature ²	2 Bytes		✓
Operation Mode	1 Byte	✓	
	1 Bit	✓	✓
	Text ³	✓	
Fan Speed	1 Byte	✓	
	1 bit	✓	✓
	Text ³	✓	
Swing	1 Byte	✓	
	1 Bit	✓	✓
	Text ³	✓	
Error in the AC Unit	1 Bit	✓	
Error Code	2 Bytes	✓	
Save/Execute Scenes ⁴	1 Byte		✓
	1 Bit		✓
Current Scene ⁴	1 Byte	✓	
Device Enable	1 Bit	✓	✓
AC Unit's Remote Control Enable	1 Bit	✓	✓
Running Hours	2 Bytes	✓	✓
Window Contact	1 Bit		✓

¹ Only in case of "Virtual Temperature", to use a ambient temperature supplied by KNX for the air conditioning control

² Only in case of "Virtual Temperature", to use a setpoint temperature supplied by KNX for the air conditioning control

³ String-type object (14 characters), the text is configurable in device's parameters.

⁴ Up to 5 scenes can be saved and executed. A scene is a desired set for: Operation Mode, Temperature Setpoint, Fan Speed, and Swing.

2. Parameters

Multiple parameters can be configured to ensure the maximum flexibility for the integration, not only in functionality of the device but in visibility of objects in ETS for a more comfortable integrator's work.

AC unit type	USER DEFINED
Setting String	0801020703uuuu0002030506uuuu0001020304050
Window minutes	0
Send object values to KNX bus on startup	Yes
When window closes go to last state	No
Virtual temperature control	Yes

Figure 2.1. General

Show Scene bits	Yes
Show Increase/Decrease Bits	Yes
Enable Mode/Fan/Vane strings	Yes

Figure 2.2. Objects display

Mode Auto text	Auto
Mode Heat text	Heat
Mode Dry text	Dry
Mode Fan text	Fan
Mode Cool text	Cool

Figure 2.3. Mode Text

Fan Auto text	Auto
Fan Low text	Low
Fan Mid-1 text	Mid1
Fan Mid-2 text	Mid2
Fan High text	High

Figure 2.4. Fan Text

Vane Horizontal text	Horizontal
Vane Position-1 text	Position-1
Vane Position-2 text	Position-2
Vane Position-3 text	Position-3
Vane Vertical text	Vertical
Vane Swing text	Swing
Vane Auto text	Auto

Figure 2.5. Vane Text

3. Connections

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.
- **CN105** in other models.

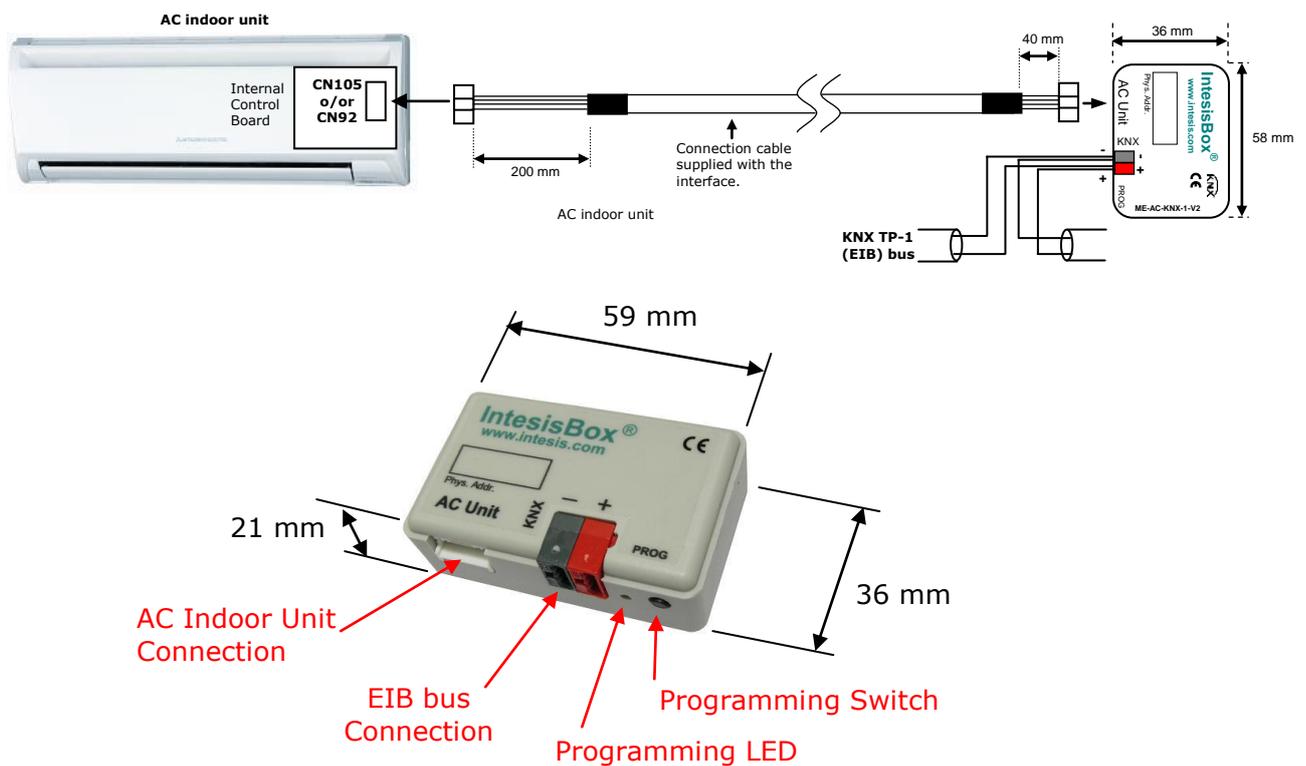
(See section 5)

and plug the supplied cable in it. For more information check the User Manual.

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:



4. Technical specifications

Envelope	ABS (UL 94 HB). 2,5 mm thickness
Dimensions	59 x 36 x 21 mm
Weight	42g
Colour	Green
Power supply	29V DC, 7mA Supplied through KNX bus.
LED indicators	1 x KNX programming/bus.
Push buttons	1 x KNX programming.
Configuration	Configuration with ETS.
Operating Temperature	From -25°C to 85°C
Storage Temperature	From -40°C to 85°C
Isolation Voltage	4000V
RoHS conformity	Compliant with RoHS directive (2002/95/CE).
Certifications	<ul style="list-style-type: none"> • CE conformity to EMC directive (2004/108/EC) and Low-voltage directive (2006/95/EC) EN 61000-6-2 EN 61000-6-3 EN 60950-1 EN 50491-3 • Product certified by KNX

5. AC Unit types compatibility.

A list of Mitsubishi Electric indoor unit model references compatible with ME-AC-KNX-1-V2 and their available features can be found in:

http://www.intesis.com/pdf/IntesisBox_ME-AC-xxx-1_AC_Compatibility.pdf