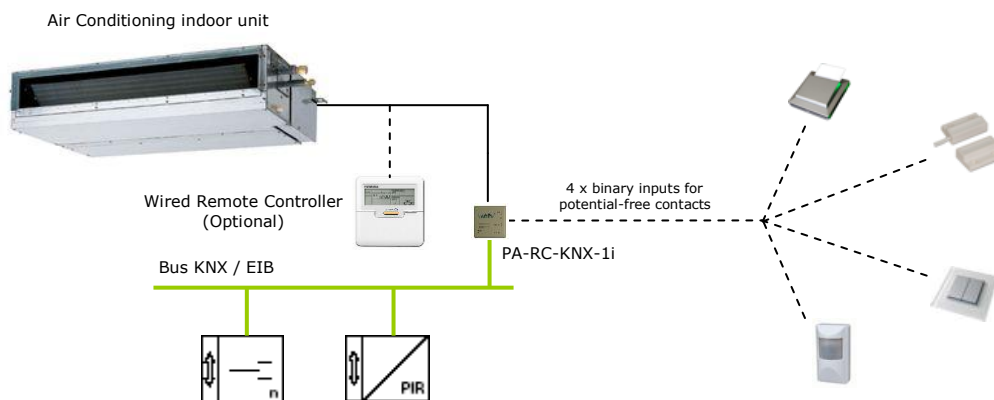# IntesisBox®
PA-RC-KNX-1i

Interface KNX for PANASONIC Air Conditioners
(FS / FSM)

IntesisBox® PA-RC-KNX-1i allows monitoring and control, fully bi-directionally, all the functioning parameters of PANASONIC Air Conditioners from KNX installations. Compatible with all FS and FSM models commercialized by PANASONIC (see link to compatible models at the end of this document).

Small dimensions and easy installation. It can be connected directly to the A/B bus from the AC indoor unit or in parallel with the wired Remote Controller, and in the other side it connects directly to the KNX TP-1 (EIB) bus. The maximum bus distance between the AC Indoor Unit, the Remote Controller and the Interface is 200 meters (see *Connections* section).

Great flexibility of integration into your KNX projects. 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 communication objects, as for example save and execute scenes. Also allows the use of a KNX temperature sensor for the air conditioning control.

Four binary inputs for potential-free contacts provide the possibility to integrate many types of external devices. Also configurable from ETS, they can be used for switching, dimming, shutter/blind control, and more.

IntesisBox® PA-RC-KNX-1i 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.

```
▲ ▌ 15.15.255 PA RC Interface
   ■⇄ 0: Control_ On/Off [DPT_1.001 - 1bit] - 0-Off;1-On
   ■⇄ 1: Control_ Mode [DPT_20.105 - 1byte] - 0-Aut;1-Hea;3-Coo;9-Fan;14-Dry
   ■⇄ 2: Control_ Mode Cool/Heat [DPT_1.100 - 1bit] - 0-Cool;1-Heat
   ■⇄ 10: Control_ Mode -/+ [DPT_1.007 - 1bit] - 0-Decrease;1-Increase
   ■⇄ 11: Control_ Fan Speed / 3 Speeds [DPT_5.010 - 1byte]  - Speed values: 1,2,3
   ■⇄ 17: Control_ Vanes U-D / 4 Pos [DPT_5.010 - 1byte] - Position values: 1,2,3,4
   ■⇄ 26: Control_ Setpoint Temperature [DPT_9.001 - 2byte] - (ºC)
   ■⇄ 35: Control_ Power Mode [DPT_1.010 - 1bit] - 0-Stop;1-Start
   ■⇄ 38: Control_ Additional Cool [DPT_1.010 - 1bit] - 0-Stop;1-Start
   ■⇄ 39: Control_ Execute Scene [DPT_18.001 - 1byte] - 0..4-Execute Scene 1-5
   ■⇄ 54: Status_ On/Off [DPT_1.001 - 1bit] - 0-Off;1-On
   ■⇄ 55: Status_ Mode [DPT_20.105 - 1byte] - 0-Aut;1-Hea;3-Coo;9-Fan;14-Dry
   ■⇄ 56: Status_ Mode Cool/Heat [DPT_1.100 - 1bit] - 0-Cool;1-Heat
   ■⇄ 62: Status_ Mode Text [DPT_16.001 - 14byte] - ASCII String
   ■⇄ 63: Status_ Fan Speed / 3 Speeds [DPT_5.010 - 1byte] - Speed Values: 1,2,3
   ■⇄ 69: Status_ Vanes U-D / 4 Pos [DPT_5.010 - 1byte] - Position values: 1,2,3,4
   ■⇄ 78: Status_ AC Setpoint Temp [DPT_9.001 - 2byte] - (ºC)
   ■⇄ 80: Status_ Error/Alarm [DPT_1.005 - 1bit] - 0-No alarm;1-Alarm
   ■⇄ 83: Status_ Power Mode [DPT_1.001 - 1bit] - 0-Off;1-On
   ■⇄ 86: Status_ Additional Cool [DPT_1.001 - 1bit] - 0-Off;1-On
   ■⇄ 88: Status_ Current Scene [DPT_17.001 - 1byte] - 0..4-Scene X+1;63-No Scene
   ■⇄ 89: Status_ In1 - Switching [DPT_1.001 - 1bit] - 0-Off;1-On
```

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.
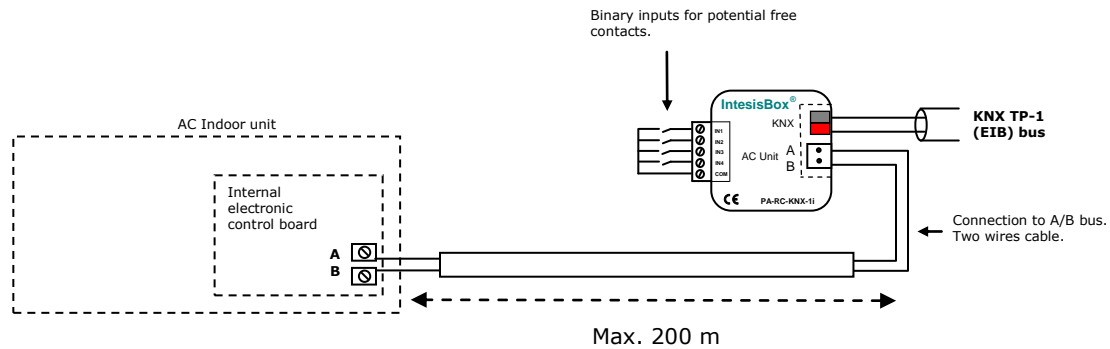
Device: 15.15.255 PA RC Interface		
General	Download latest database entry for this product and its User Manual from:	http://www.intesis.com
Mode Configuration		
Special Modes Configuration	Send READs for Control_ objects on bus recovery (T & U flags must be active)	Yes
Fan Speed Configuration		
Vanes Up-Down Configuration	> Delay before sending READs (sec)	10
Temperature Configuration		
Scene Configuration	Scene to load on bus recovery / startup (needs to define vals for that scene)	(none)
Switch-Off Timeouts Configuration		
Binary Input 1 Configuration	Disallow control from remote controller	No
Binary Input 2 Configuration		
Binary Input 3 Configuration	> Enable comm obj "Ctrl_ Remote Lock"	No
Binary Input 4 Configuration		
	Enable func "Control_ Lock Control Obj"	No
	Enable func "Operating Hours Counter"	No
	Enable use of objects for Filter (for Control and Status)	No
	Enable object "Error Code [2byte]"	No
	Enable object "Error Text Code [14byte]" (3 ASCII-char Error Code)	No

URL　http://www.intesis.com
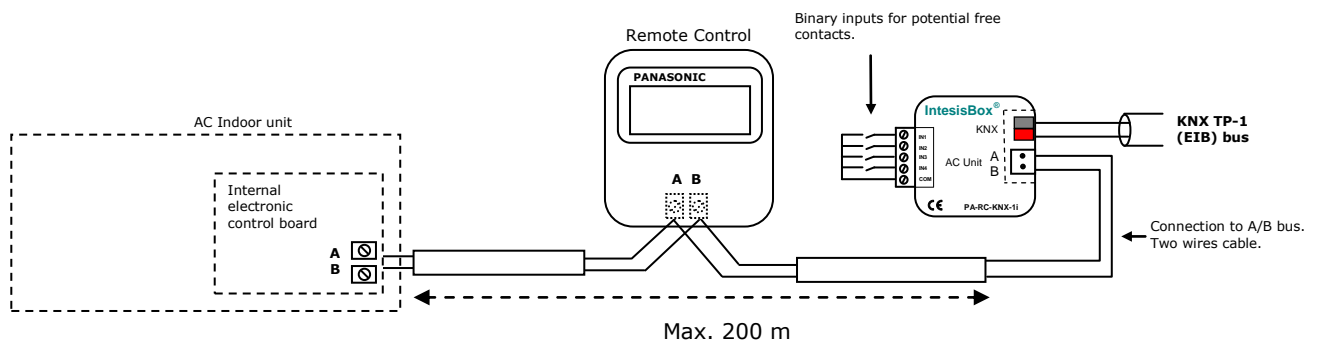Email　info@intesis.com
tel　+34 938047134

3. Connections

PA-RC-KNX-1i can be used with Panasonic Remote Controllers or without them.

- PA-RC-KNX-1i without PANASONIC Remote Controller

- PA-RC-KNX-1i with PANASONIC Remote Controller

4. List of compatible Panasonic AC indoor units.

A list of Panasonic indoor unit model references compatible with PA-RC-KNX-1i and their available features can be found at:

http://www.intesis.com/pdf/IntesisBox_PA-RC-xxx-1_AC_Compatibility.pdf

5. Technical Specifications

Envelope	ABS (UL 94 HB). 2,5 mm thickness
Dimensions	70 x 45 x 28 mm
Weight	70g
Colour	Ivory white
Power supply	29V DC, 7mA Supplied through KNX bus.
LED indicators	1 x KNX programming.
Push buttons	1 x KNX programming.
Binary inputs	4 x binary inputs for potential-free contacts. Signal cable length: 5m uschielded, may be extended up to 20m with twisted. Compliant with the following standards: IEC61000-4-2 : level 4 - 15kV (air discharge) - 8kV (contact discharge) MIL STD 883E-Method 3015-7 : class3B
Configuration	Configuration with ETS.
Operating Temperature	From -25ºC to 85ºC
Storage Temperature	From -40ºC to 85ºC
Isolation Voltage	2500V
RoHS conformity	Compliant with RoHS directive (2002/95/CE).
Certifications	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; EN 50090-2-2; EN 50428; EN 60669-1; EN 60669-2-1

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