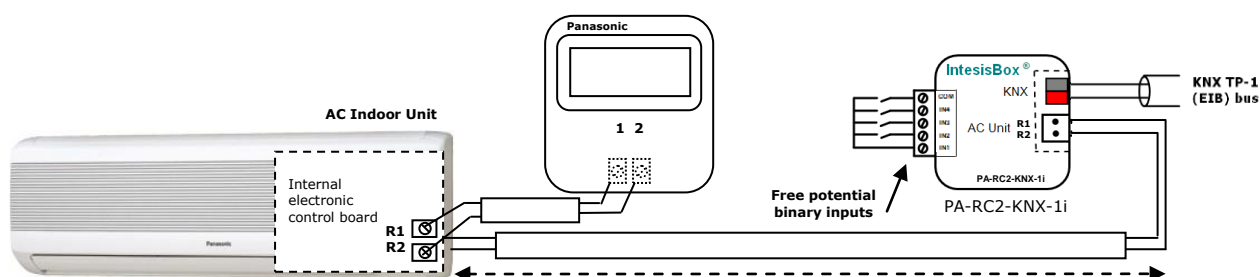




IntesisBox® PA-RC2-KNX-1i

Interface KNX for Panasonic and Sanyo Air Conditioners (ECOi / PACi)



IntesisBox® PA-RC2-KNX-1i allows monitoring and control, fully bi-directionally, all the functioning parameters of Panasonic and Sanyo Air Conditioners from KNX installations. Compatible with all ECOi and PACi models commercialized by Panasonic and Sanyo (see link to compatible models at the end of this document).

Small dimensions and easy installation. It can be connected directly to the R1R2 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 500 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-RC2-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.

1.1.1 PA RC2 interface, 4 binary inputs	
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
11:	Control_ Fan Speed / 3 Speeds [DPT_5.001 - 1byte] - Thresholds: 50% and 83%
17:	Control_ Vanes U-D / 5 Pos [DPT_5.001 - 1byte] - Thresholds:30%,50%,70% and 90%
26:	Control_ Setpoint Temp [DPT_9.001 - 2byte] - °C
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
63:	Status_ Fan Speed / 3 Speeds [DPT_5.001 - 1byte] - 33%, 67% and 100%
69:	Status_ Vanes U-D / 5 Pos [DPT_5.001 - 1byte] - 20%, 40%, 60%, 80% and 100%
78:	Status_ AC Setpoint Temp [DPT_9.001 - 2byte] - °C
79:	Status_ AC Return Temp [DPT_9.001 - 2byte] - °C
81:	Status_ Error/Alarm [DPT_1.005 - 1bit] - 0-No alarm;1-Alarm
83:	Status_ Error Text Code [DPT_16.001 - 14byte] - 3-char PA Error; Empty-None

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: 1.1.1 PA RC Interface

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

3. Connections

Connection of the PA-RC2-KNX-1i to the AC indoor unit

The PA-RC2-KNX-1i can be connected directly to the R1R2 bus of the indoor unit (no remote controller -RC from now on- connected in the R1R2 bus) or with the RC. See connection diagram below.

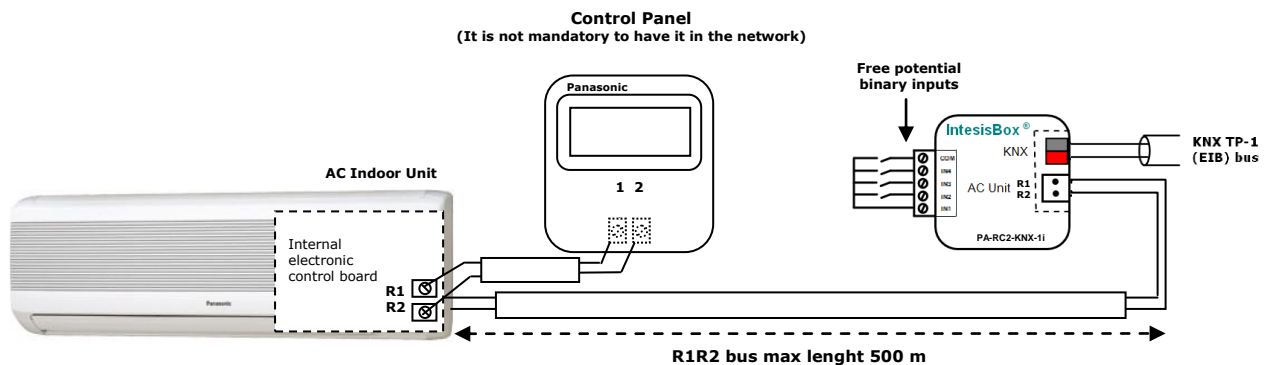


Figure 2.1 PA-RC2-KNX-1i connection diagrams

3.1 PA-RC2-KNX-1i with Remote Controller

Connection of the PA-RC2-KNX-1i to the KNX bus:

Disconnect power of the KNX bus. Connect the PA-RC2-KNX-1i to the KNX TP-1 (EIB) bus using the KNX standard connector (red/grey) of the PA-RC2-KNX-1i, respect polarity.

Reconnect power of the KNX bus, and mains power of the AC unit.

NOTE: In some indoor unit models the R1R2 is not available. In its place there is a pair of cables to connect the Remote Controller. Use these cables to connect the R1R2 bus. Check your indoor unit user or service manual for more information.

4. List of compatible AC indoor units.

A list of Panasonic and Sanyo indoor unit model references compatible with PA-RC2-KNX-1i and their available features can be found in:

Panasonic:

http://www.intesis.com/pdf/IntesisBox_PA-RC2-xxx-1_Panasonic_Compatibility.pdf

Sanyo:

http://www.intesis.com/pdf/IntesisBox_PA-RC2-xxx-1_Sanyo_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 unshielded, 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 -25°C to 85°C
Storage Temperature	From -40°C to 85°C
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 61000-6-1; EN 61000-6-3; EN 60950-1; EN 50491-3; EN 50090-2-2; EN 50428; EN 60669-1; EN 60669-2-1

