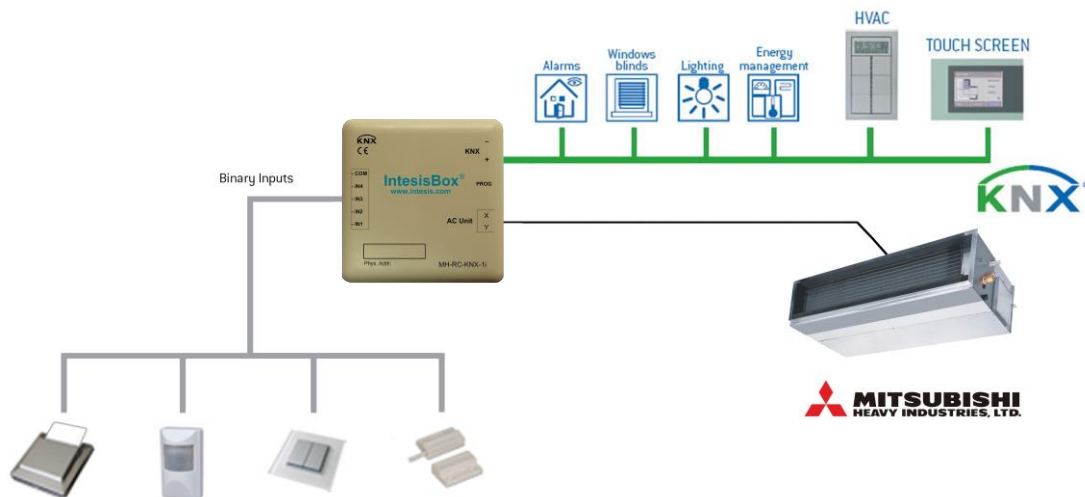# IntesisBox®
MH-RC-KNX-1i

Interface KNX for Mitsubishi Heavy Industries

MH-RC-KNX-1i allows a complete and natural integration of MITSUBISHI HEAVY INDUSTRIES air conditioners with KNX control systems. It is compatible with RAC[1] Series, FD Series, KX6 and KXR6 (VRF) Series air conditioners commercialized by MITSUBISHI HEAVY INDUSTRIES.

Simple installation. Can be installed inside the own AC indoor unit, connecting one side directly to the X/Y bus, and the other side directly to the KNX TP-1 (EIB) bus.

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's communication objects, as *save* and *execute* scenes.

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.

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

IntesisBox® MH-RC-KNX-1i will offer you a full integration of the air conditioning in your KNX projects at a very affordable cost.

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[1] RAC Series require optional SC-BIKN-E from MHI.

1. Communication objects

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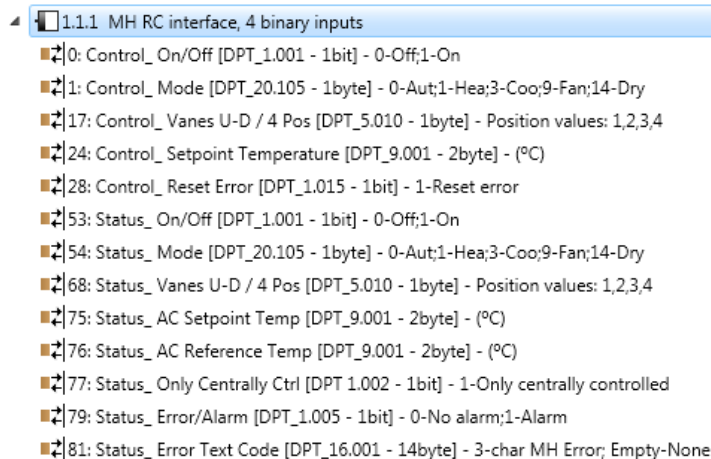

Figure 1.1 Objects Display

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.
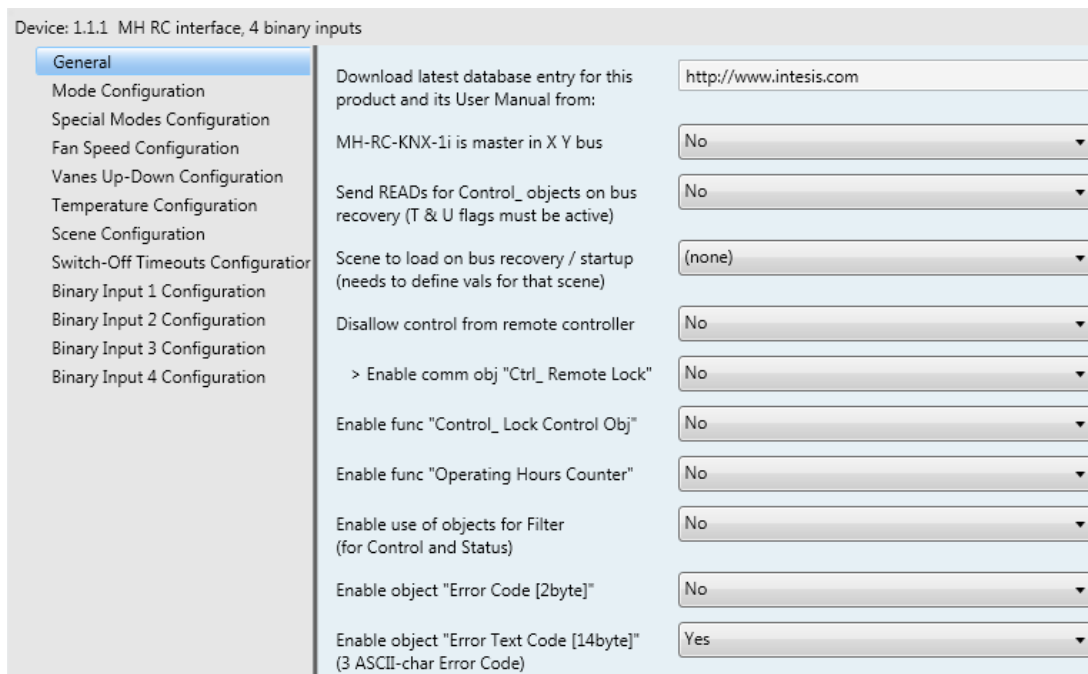

Figure 2.1 General parameters view

3. Connections

Connection to the AC indoor unit can be done in two different ways: without the MHI Remote Controller or with the MHI Remote Controller.

3.1   MH-RC-KNX-1i without MHI Remote Controller

The MH-RC-KNX-1i can be connected directly to the X/Y bus of the indoor unit (no MHI remote controller -RC from now on- also connected in the X/Y bus). If this is the case, MH-RC-KNX-1i must be configured as master (using the ETS software), see connection diagram below.
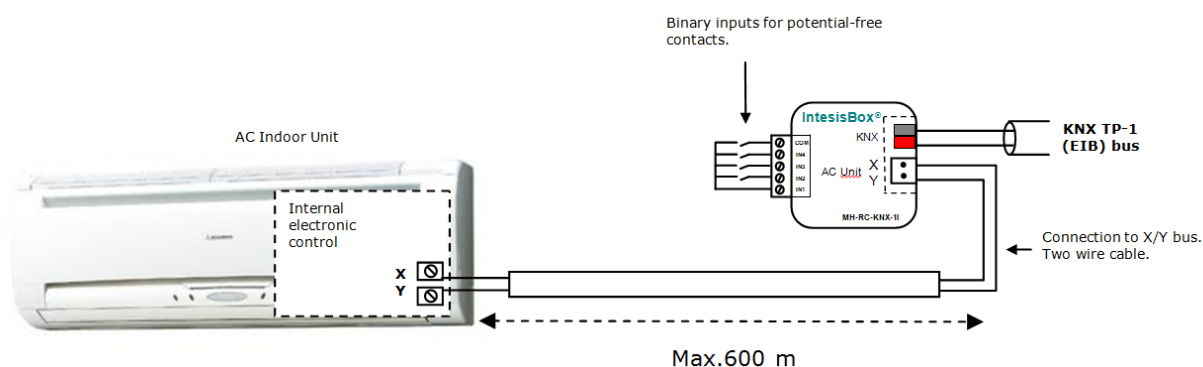

Figure 3.1 MH-RC-KNX-1i connection to MHI indoor unit without MHI Remote Controller

3.2   MH-RC-KNX-1i with MHI Remote Controller

If a MHI remote controller (RC) is present and connected to the X/Y bus, there are two configuration options:

- **Wired remote control available**. Connect the gateway as Slave in parallel with the wired remote controllers (controller acts as Master).

- **Infrared remote control available**. Connect the gateway as Master in parallel with the infrared remote controller (Infrared receiver acts as Slave).
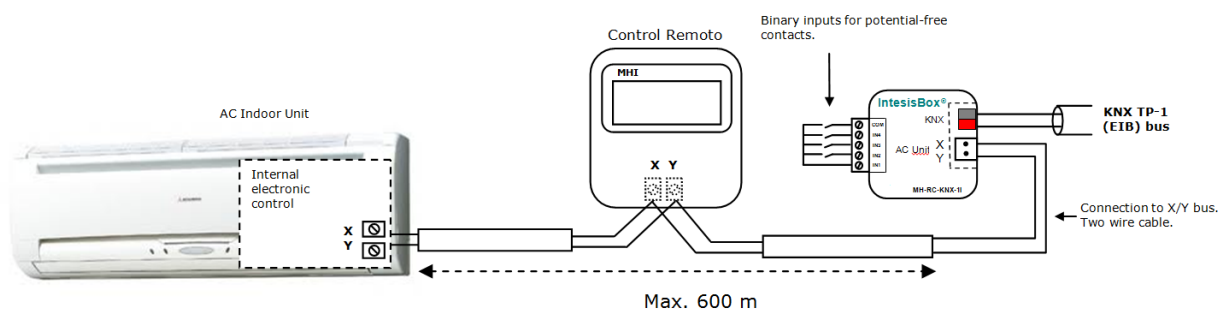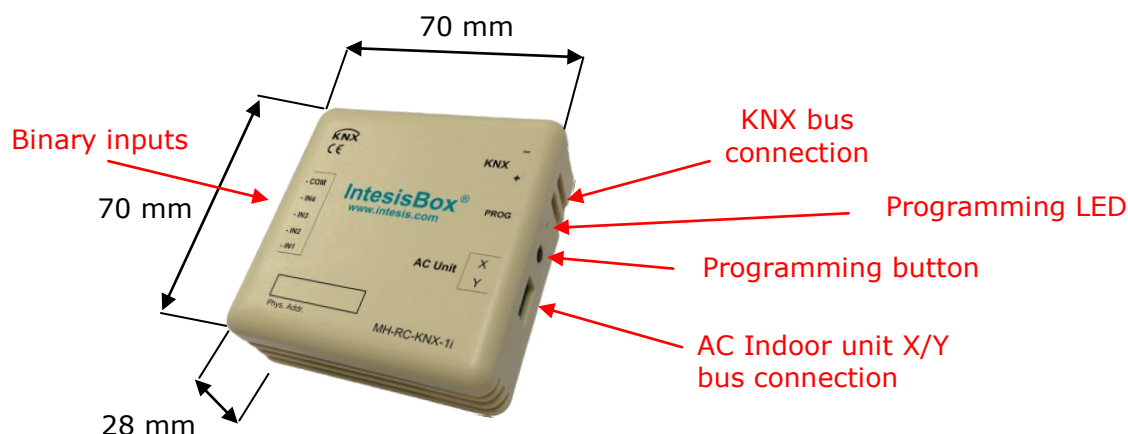

Figure 3.2 MH-RC-KNX-1i connection to MHI indoor unit with MHI Remote Controller

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4. Technical Specifications

Envelope	ABS (UL 94 HB). 2,5 mm thickness
Dimensions	70 X 70 X 28 mm
Weight	70g
Colour	Ivory white
Power supply	29V DC, 7mA Supplied through KNX bus.
MHI X/Y Bus	Voltage: 13-18V Current: 80mA
LED indicators	1 x KNX programming.
Push buttons	1 x KNX programming.
Binary inputs	4 x Potential-free binary inputs. 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 0ºC to 40ºC
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

5. AC Unit Types compatibility.

A list of Mitsubishi Heavy Industries indoor unit model references compatible with MH-RC-KNX-1i and their available features can be found in:

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