Procon KNX / EIB Interface

Procon KNX-EIB-IP-100

FOR INSTALLERS

INSTALLATION MANUAL
Version 1.01

For safe and correct use, please read this installation manual thoroughly before installing the KNX-EIB-IP-100.

MITSUBISHI ELECTRIC

Contents

1. Safety precautions

- **Before installing the unit, make sure you read all the "Safety precautions"**
- **The "Safety precautions" provide very important points regarding safety. Make sure you follow them**

Symbols used in the text

⚠ Warning:
Describes precautions that should be observed to prevent danger of injury or death to the user.

⚠ Caution:
Describes precautions that should be observed to prevent damage to the unit.

⚠ Warning:
Carefully read the labels affixed to the main unit

⚠ Warning:

- **Ask the dealer or an authorised technician to install the unit**
  - Improper installation by the user may result in water leakage, electric shock, or fire
- **Use the specified cables for wiring. Make the connections securely so that any outside forces acting on the cables are not applied to the terminals**
  - Inadequate connection and fastening may generate heat and cause a fire
- **Never repair the unit. If the controller must be repaired, consult the dealer**
  - If the unit is repaired improperly, electric shock, or fire may result
- **When handling this product, always wear protective equipment. EG: Gloves, full arm protection and safety glasses**
  - Improper handling may result in injury
- **Have all electric work done by a licensed electrician according to "Electric Facility Engineering Standard", "Interior Wire Regulations" and the instructions given in this manual and always use a special circuit**
  - If the power source capacity is inadequate or electric work is performed improperly, electric shock and fire may result
- **Keep the electric parts away from any water - washing water etc…**
  - Contact may result in electric shock, fire or smoke
- **Do not reconstruct or change the settings of the protection devices**
  - If the protection device is shorted or operated forcibly, or parts other than those specified by Mitsubishi Electric are used, fire or explosion may result
- **To dispose of this product, consult your dealer**

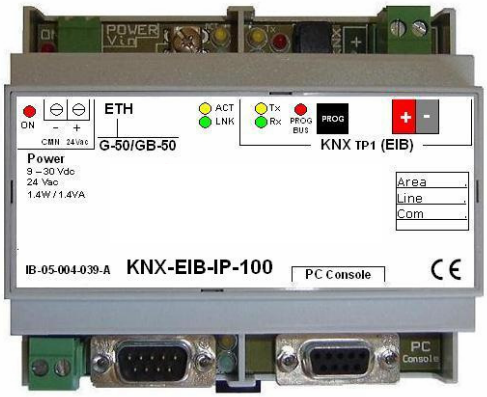
⚠ Caution:

- **Ground the unit**
  - Do not connect the ground wire to gas or water pipes, lightning rods, or telephone ground lines. Improper grounding may result in electric shock
- **Be careful that the installation base is not damaged**
  - If the damage is left uncorrected, the unit may fall and cause personal injury or property damage
- **Be very careful regarding product transportation**
  - Two people should be used to carry products of 20kg or more
  - Some products use PP bands for packaging. Do not use any PP bands for a means of transportation
- **Safely dispose of the packing materials**
  - Packing materials, such as nails and other metal or wooden parts, may cause stabs or other injuries
  - Tear apart and throw away plastic packaging bags so that children will not play with them - If children play with a plastic bag which has not been torn apart, they face the risk of suffocation

2. Overview

The KNX-EIB-IP-100 is a G50/GB50 interface to EIB and KNX protocol.

The interface can monitor and control up to 100 indoor units using two G50s or GB50s.



3. Size

The interface details are:

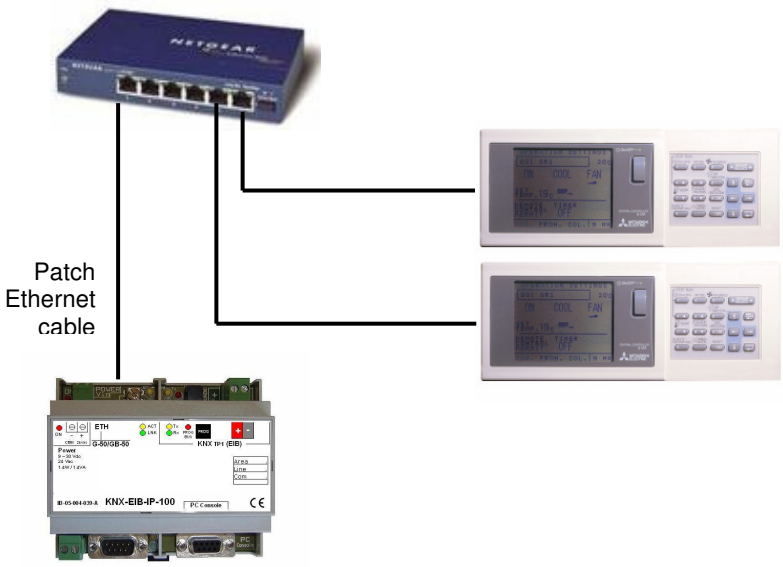
- Height 130mm
- Width 115mm
- Depth 100mm

4. Selecting an installation site

- Avoid locations in direct sunlight
- Avoid locations exposed to steam or oil vapour
- Avoid locations where combustible gas may leak, settle or be generated
- Avoid installation near machines emitting high-frequency waves
- Avoid places where acidic solutions are frequently handled
- Avoid places where sulphur-based or other sprays are frequently used
- Avoid areas of high humidity (when cooling operation is required)
- Install inside the building

5. Installation

The interface connects to the two G50s or GB50s using patch network cables and a hub (not supplied).



6. Commissioning

Commissioning must be completed by a Mitsubishi Electric site services engineer. Please contact Lyn Kidd on 01707 278714 to book commissioning.

7. KNX communication objects

7.1. Main objects

Property	Description / Status
Drive	**Start/Stop** Read/Write: ON, OFF
Mode	**AC Mode** Read/Write: COOL, DRY, FUN, HEAT, AUTO, HEAT RECOVERY, LC_AUTO, BYPASS Read: AUTO HEAT, AUTO COOL
SetTemp	**Temperature Set Point** (only integer numbers allowed) Read/Write: For COOL or DRY mode:19..30 ºC, for HEAT mode: 17..28 ºC, for AUTO mode:19..28 ºC)
AirDirection	**Air output direction** Read/Write: HORIZONTAL, MID1, MID2, VERTICAL, SWING
FanSpeed	**AC fan speed or LOSSNAY** Read/Write: HIGH, MIDH, MIDL, LOW
RemoCon	**Prohibition for General control from the local panel** Read/Write: PROHIBIT, PERMIT
DriveItem	**Prohibition for ON/OFF control from the local panel** Read/Write: CHK_ON, CHK_OFF
ModeItem	**Prohibition for Mode control from the local panel** Read/Write: CHK_ON, CHK_OFF
SetTempItem	**Prohibition for Set Point control from the local panel** Read/Write: CHK_ON, CHK_OFF
FilterItem	**Prohibition for Filter Reset control from the local panel** Read/Write: CHK_ON, CHK_OFF
Ventilation	**Operational status for LOSSNAY or OA** Read/Write: HIGH, LOW, OFF
FilterSign	**Status for Filter Dirty** Read: ON, OFF Write: RESET
ErrorSign	**Error status** Read: ON, OFF Write: RESET
InletTemp	**Ambient Temperature** Read: 0.0 to 99.9
G50 Communication Error	**Communication error with G50** Virtual signal generated by IntesisBox to indicate the status of the communication with the G50.
Group Communication Error	**Group communication error** Virtual signal generated by IntesisBox to indicate that the group is not configured into the G50.

7.2. Functional characteristics

General	
Max. Number of Mitsubishi Elec.G50s	Up to 2 G50s (up to 100 groups) can be supported. There are two different models for this gateway, supporting: 15 or 100 groups respectively.
Virtual signals	• One communication error virtual signal per every G50 device defined. • One communication error virtual signal per every group into the G50 device. All these virtual signals can be read/written from KNX.
Mitsubishi Electric G50 interface	
Device type	Client.
Configuration Parameters	Polling interval (1..600 seconds). Per every G50 defined: • Descriptive name. • IP address. • TCP port.
KNX/EIB interface	
Bus coupler	Internal Konnex TP1 (EIB) opto-coupled bus coupler unit for direct connection to EIB bus. Connector: 2 poles plug-in screw terminal bloc.
Configuration parameters	• Physical address.
Interactivity with KNX/EIB system	• All the signals per group and functionality offered by the G50 is available from KNX/EIB. • When the gateway starts up, or after an EIB bus reset detection, all the updated values read from Mitsubishi Electric system will be sent to KNX. *Configurable individually per point.* • Any change detected in Mitsubishi Electric system (i.e. Ambient Temperature of a G50 group) is immediately transmitted to KNX. *Configurable individually per point.* • Any point value can be updated with a reading from KNX/EIB system when the gateway starts up (i.e. Temp.Set Point). *Configurable individually per point.* • Multiple EIB group addresses can actuate on the same gateway's point. • Mode, Air Direction, Fan Speed, and Ventilation of every G50 group allow extended functionality for supervision/control (*Multibit* feature), they can be supervised/controlled from KNX using objects of type EIS6 (Value 8bits) (i.e. writing the value corresponding to the Mode desired: 0, 1, 2, 3…) or also using simpler objects of type EIS1 (switching) (i.e. one different object per Mode). This allows for example to fix a given Mode or Fan Speed using a simple switch.
Points	
Parameters configurable per point	G50 related fields. • Active (Yes/No). Useful to deactivate G50 points not wanted to be accessible fromKNX. KNX/EIB related fields. • Group address (in format P/I/S or P/S). *Is the sending group address.* • Listening addresses (in format P/I/S or P/S separated by comma). The gateway will listen for KNX/EIB telegrams for these listening addresses, when received then it will act as if they where for the sending group address defined. This is very useful to translate actions to the Mitsubishi Electric system coming from different KNX/EIB commands, for example from an

	individual start/stop button and also from a general start/stop button • R. Specifies if the point can be read from the KNX/EIB system. • W. Specifies if the point can be written from the KNX/EIB system. • T. Specifies if a telegram will be sent to the KNX/EIB system when the point's value changes. • U. Specifies if the point's value must be updated with a reading from the KNX/EIB system when the gateway starts up
KNX EIS (Datapoints)	Every point has a predefined fixed KNX EIS associated.

8. Technical information

Envelope	Plastic type PC (UL 94 V-0). Size: 107mm x 105mm x 58mm.
Colour	Grey. RAL 7035.
Power	9 to 30VDC +/-10% 1.4W. 24VAC +/-10% 1.4VA. Power connector is a 2 pole plug-in screw terminal bloc.
External power supply	**Optional.**[1]
Mounting options	Desktop Wall DIN rail EN60715 TH35.
KNX (EIB) port	1 x Konnex TP1 (EIB) isolated (Plug-in screw terminal block 2 poles).
Mitsubishi Elec.G50 port	1 x Ethernet 10BT RJ45 connector.
LED indicators	1 x Power. 2 x KNX port activity (Tx, Rx). 2 x Ethernet port (LNK, ACT). 1 x KNX programming/bus.[2]
Push buttons	1 x KNX programming.[2]
Console port	RS232. DB9 female connector (DCE).
Configuration	Via console port.[3]
Firmware	Allows upgrades via console port.
Operational temperature range	-40°C to +70°C
Operational humidity range	5% to 95%, non condensing
Protection	IP20 (IEC60529).
RoHS conformity	Compliant with RoHS directive (2002/95/CE).
Certifications	CE

1 Not included with the device, supplied on request. 230Vac 50Hz/12Vdc 300mA (euro type plug).
2 Not operational for the moment. Reserved for future use.
3 Along with the device it is also supplied a standard DB9 male - DB9 female 1.8 m. cable for configuring and monitoring the device using a PC via serial COM port. The configuration software LinkBoxEIB (free of charge), compatible with MS Windows® operating systems, is also supplied with the device.

9. Applicable Air Conditioning models

Below is a list of Air Conditioning models compatible with this interface:

- Any Mitsubishi Electric Air Conditioning systems connected to a G50 or GB50

This product is designed and intended for use in the residential, commercial and light-industrial environment.

The product at hand is based on the following EU regulations:

• Low Voltage Directive 73/23/EEC

• Electromagnetic Compatibility Directive 89/336/EEC

Please be sure to put the contact address/telephone number on this manual before handing it to the customer.

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