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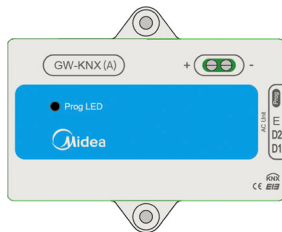
Owner's Manual

Hydraulic Module KNX Gateway

GW-KNX(A) - (K05-KNX 01 A)

Thank you for purchasing our product.
Read this manual carefully before using this product and keep it for future reference.

- This manual gives detailed description of the precautions that should be brought to your attention during operation.

- In order to ensure correct service of GW-KNX(A) - (K05-KNX 01 A), please read this manual carefully before using the unit.

- For convenience of future reference, keep this manual after reading it.

Table of Contents

I. Safety precautions

The following contents are stated on the product and the operation
manual, including usage, precautions against personal harm and
property loss, and the methods of using the product correctly and safely.
After fully understanding the following contents (identifiers and icons),
read the text body and observe the following rules.

■ Identifier description

Identifier	Meaning
⚠ **Warning**	Means improper handling may lead to personal severe injury.
⚠ **Caution**	Means improper handling may lead to personal injury.
[Note]: 1. "Harm" means injury, burn and electric shock which need long-term treatment but need no hospitalization. 2. "Property loss" means loss of properties and material.	

■ Icon description

Icon	Meaning
🚫	It indicates forbidding. The forbidden subject-matter is indicated in the icon or by images or characters aside.
❗	It indicates compulsory implementation. The compulsory subject-matter is indicated in the icon or by images or characters aside.

⚠ WARNING

Please entrust the distributor or professionals to install the unit.
Installation by other persons may lead to imperfect installation, electric shock or fire.

Strictly follow this manual.
Imporper installation may lead to electric shock or fire.

Reinstallation must be performed by professionals.
improper installation may lead to electric shock or fire.

Do not disassemble your air conditioner at will.
A random disassembly may cause abnormal operation or heating, which may result in fire.

⚠ CAUTION

Do not install the unit in a place vulnerable to leakage of flammable gases.
Once flammable gases are leaked and left around the wire controller, fire may occure.

The wiring should adapt to the wire controller current.
Otherwise, electric leakage or heating may occur and result in fire.

The specified cables shall be applied in the wiring. No external force may be applied to the terminal.
Otherwise, wire cut and heating may occur and result in fire.

Do not place the wired remote controller near the lamps, to avoid the remote signal of the controller to be disturbed. (refer to the right figure)

II. Other precautions

● Installation Location

Do not install the unit in a place with much oil, steam, sulfide gas. Otherwise, the product may be deformed and failed.

● Preparation before installation

1. Check whether the following assemblies are complete.

No.	Name	Qty.	Remarks
1	GW-KNX(A) - (K05-KNX 01 A)	1	————————
2	Cross round head wood mounting screw	3	GB950-86 M4X20 (For Mounting on the Wall)
3	Cross round head mounting screw	2	M4X25 GB823-88 (For Mounting on the Electrical Switch Box)
4	Installation Manual	1	————————
5	Plastic expansion pipe	3	For Mounting on the Wall
6	3-core shielded cable	1	For connecting the indoor unit and GW-KNX(A) - (K05-KNX 01 A)

2. Prepare the following assemblies on the site.

No.	Name	Qty.(embeded into wall)	Specification (only for reference)	Remarks
1	2-core shielded cable	1	RVVP-0.5mm^{2}x2	Max 350m
2	86 Electrician box	1	——————	——————
3	Wiring Tube(Insulating Sleeve and Tightening Screw)	1	——————	——————
4	KNX power module	1	——————	——————
5	Communicate module	1	——————	——————

**Note to installation of GW-KNX(A) - (K05-KNX 01 A):**

1. One KNX module can only connect with one indoor unit;The KNX module should connect to indoor D1D2E ports.
2. Circuit of GW-KNX(A) - (K05-KNX 01 A) is low voltage circuit. Never connect it with a standard 220V/380V circuit or put it into a same Wiring Tube with the circuit.
3. Do not attempt to extend the shield cable by cutting, if it is necessary, use Terminal Connection Block to connect.
4. After finishing connection, do not use Megger to have the insulation check to the signal wire.
5. The default physical address of the GW-KNX(A) - (K05-KNX 01 A) is 15.15.255,If there are two or more KNX modules, then the physical addresses can not repeat. The physical address can be changed by ETS software.

III. Installation procedure

1. The product parameters

| No.	Name	Remarks
1	Dimensions	85*51*16mm
2	Power supply	29VDC 10mA,Supplied through KNX bus
3	LED indicator	KNX programming
4	Push button	KNX programming button
5	Configuration	Configuration with ETS software.

2. The product parameters
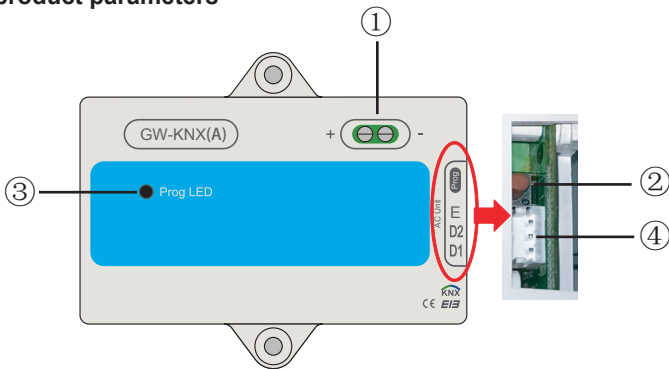
- ① **Bus interface:** Power supply DC 29V, 10mA and connect to KNX bus;
  - ② **KNX programming button:** press once to enter the programming mode, press it again will exit.
  - ③ **KNX programming statues lamp:** when it is light up means programming status and can write data to the module by KNX bus
  - ④ **RS485 communication ports:** Communication port between KNX module and indoor unit.(support 2nd generation DC indoor unit)

- GW-KNX(A) - (K05-KNX 01 A) is completely in conformity with EIB/ KNX standard. ETS software must be used by integrator to carry out configuration and project design. For detailed information of ETS software, please contact knx association: www.knx.org.

- ETS database (*.knxprod*) of GW-KNX(A) - (K05-KNX 01 A) can be downloaded from our web site: http://cac.midea.com, or consult our company.

3. Wiring installation instruction

The Wiring diagram follows,the GW-KNX(A) - (K05-KNX 01 A) connect to the indoor Unit and KNX Power.

KNX TP-1 (EIB) bus

GW-KNX(A) MAX 500m indoor unit
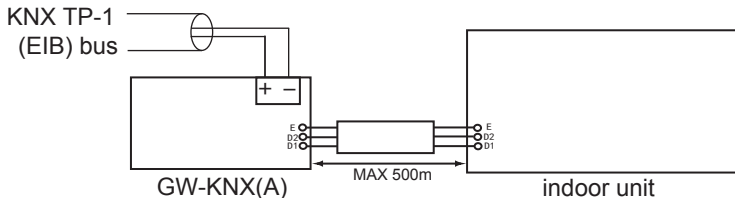
The Introduction GW-KNX

● GW-KNX allows monitoring and control, fully bi-directionally, of all the functioning parameters of Midea Air Conditioners from KNX installations.

● Simple installation.
  Can be installed inside the own indoor unit, it connects directly in one side to the electronic circuit of the indoor unit (cable supplied) and in the other side 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 indoor 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.

IV. ETS database group objects introduction

1) When the gateway is powered on, it scans the IDU to obtain the IDU data that can be communicated first.

2) The KNX bus control command is parsed and repackaged into the IDU D1D2E communication protocol format, and then sent to the IDU.

3) KNX access points:

Function	Group Address	Length	Data Type	Function	Attribute	Remarks
On/off in heating mode	0/0/1	1 bit	Boolean	Input	CRW	0: Off 1: On
Water outlet temperature control in heating mode	0/0/2	2 bytes	F16/Float	Input	CRW	25-80 °C
Room temperature control in heating mode	0/0/3	2 bytes	F16/Float	Input	CRW	17-30 °C
On/off in water heating mode	0/0/4	1 byte	Boolean	Input	CRW	0: Off 1: On
Temp. control in water heating mode	0/0/5	2 bytes	F16/Float	Input	CRW	25-80 °C
Current running mode	0/0/20	1 byte	N8/Enumeration	Output	CRT	0: Off 1: Heating
Set water outlet temperature in heating mode	0/0/21	2 bytes	F16/Float	Output	CRT	°C
Current water outlet temperature in heating mode	0/0/22	2 bytes	F16/Float	Output	CRT	°C

Function	Group Address	Length	Data Type	Function	Attribute	Remarks
Set room temperature in heating mode	0/0/23	2 bytes	F16/Float	Output	CRT	℃
Current room temperature in heating mode	0/0/24	2 bytes	F16/Float	Output	CRT	℃
Set temperature in water heating mode	0/0/25	2 bytes	F16/Float	Output	CRT	℃
Current temperature in water heating mode	0/0/26	2 bytes	F16/Float	Output	CRT	℃
Enabling the water heating mode and heating mode	0/0/27	1 byte		Output	CRT	0: Default value 1: Enabling the heating mode and water heating mode 2: Water heating mode, without heating mode 3: Heating mode, with water heating mode
Current control status in heating mode	0/0/28	1 byte	N8/Enumeration	Output	CRT	0: Default value 1: Water outlet temperature control is valid 2: Room temperature control is valid

Function	Group Address	Length	Data Type	Function	Attribute	Remarks
Low byte of error code	0/0/29	1 bytes	N8/ Enumeration	Output	CRT	N8/ Enumerationdefinition in the table below
High byte of error code	0/0/30	1 bytes	N8/ Enumeration	Output	CRT	N8/ Enumerationdefinition in the table below
Is there currently an error	0/0/31	1 bytes	N8/ Enumeration	Output	CRT	0: No error 1: Error

Notes:
C: Communication; R: Read; W: Write; T: Transmit

Definition of high-temperature hydraulic module error
Low byte of error code + high byte Bit0 of error code represent the error category; High bytes Bit1 to Bit4 of error code represent the error sub-categories; High bytes Bit5 to Bit7 of error code represent the error no.

Byte	Meaning	Value	Remarks
Low byte of error code + Bit 0 of high byte of error code	Low byte of error code + Bit 0 of high byte of error code	0: No error 1-20: A0-AF, AH, AL, AP, AU 21-40: b0-bF, bH, bL, bP, bU 41-60: C0-CF, CH, CL, CP, CU 61-80: E0-EF, EH, EL, EP, EU 81-100: F0-FF, FH, FL, FP, FU 101-120: H0-HF, HH, HL, HP, HU 121-140: L0-LF, LH, LL, LP, LU 141-160: J0-JF, JH, JL, JP, JU 161-180: n0-nF, nH, nL, nP, nU 181-200: P0-PF, PH, PL, PP, PU 201-220: r0-rF, rH, rL, rP, rU 221-240: t0-tF, tH, tL, tP, tU 241-260: U0-UF, UH, UL, UP, UU Others: reserved	
High bytes Bit1 to Bit4 of the error code	Reserved	0	
High bytes Bit5 to Bit7 of the error code	represent the error no.	0 to 7	0: no error No. 1 to 7: error No.

Examples of error codes

1) If the low byte of error code + high byte Bit0 of error code is 1, the high bytes Bit1 to Bit4 of error code is 0, and the high bytes Bit5 to Bit7 of error code is 0, the error code is A0.

2) If the low byte of error code + high byte Bit0 of error code is 1, the high bytes Bit1 to Bit4 of error code is 0, and the high bytes Bit5 to Bit7 of error code is 1, the error code is 1A0.

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